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AN EXAMINATION OF SOME OF THE EARLY VOYAGES OF DISCOVERY AND EXPLORATION ON THE NORTHWEST COAST OF AMERICA, FROM 1539 TO 1603.

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INTRODUCTION.

During my work on the Pacific coast of the United States since the spring of 1850 I became deeply interested in the discoveries and explorations of the early Spanish navigators who had followed the coast from Cape San Lucas to Alaska. Part of my duty consisted in the determination of the latitude and longitude of the headlands, islands, rocks, harbors, rivers, &c., and in the geographical reconnaissance of the shores from the Mexican boundary to the forty-ninth parallel. While in command of the surveying brig R. H. Fauntleroy, I entered (in addition to my regular duties) upon the self-imposed task of writing a Coast Pilot for California, Oregon, and Washington Territory, and I have nearly completed the fourth edition of that work. Very naturally, my early interest in the old explorations became intensified, and I made many special examinations of the narratives and their application to supposed localities. I think I have been able to reconcile many of the discrepancies of the old Spanish, English, American, and French navigators. Their inaccuracies arose principally from "constant" errors of their instruments, ignorance of the coast currents, errors of judgment in estimating distances, &c. Among the Spanish discoverers, the meagerness of detailed descriptions, a failure to seize the salient points for the determining of their positions, the want of minute accuracy in most of their plans—sometimes giving weight to general features and sometimes to details without distinction—and a leaning to exaggerate certain discoveries and to completely overlook others, have much involved the locating of many of their landfalls, headlands, mountains, and streams. The minuteness of record in Cook and Vancouver, of comparatively recent date, has enabled me to follow their tracks day by day and to correct their positions by personal knowledge of the localities described; but whilst giving these great men the fullest credit for surveys unparalleled before or since (when all the attendant circumstances are considered), I cannot withhold my admiration for the indomitable courage and perseverance of the old Spanish navigators, who, in small, ill-conditioned, and ill-supplied vessels, with crews nearly destroyed by scurvy, fought their way to the wildest parts of the Alaskan coast almost regardless of season. "There were giants in the earth in those days."

The records of such of these voyages as are published are too short to be of much more value than isolated statements of what was done; and the inaccuracy of the observations for the determination of the geographical positions has led many to judge that all were touched with the spirit of Maldonado, de Fonte, and de Fuca. But with the present knowledge of our coast it is possible to locate Ulloa; to track Cabrillo and Ferrelo in their discoveries in mid-winter; to place Drake under Cape Ferrelo and Point Reyes, and to fix with certainty the most of Vizcaino's positions. Later than 1603 I have not undertaken identification in this paper, except to incidentally mention Father Taraval's visit to Point Eugenio, and his landing upon Natividad and Cerros

Islands. I was particularly interested in the voyages of Cabrillo and Ferrelo, and I have endeavored to put myself in their places; and understanding the seasons and the difficulties they encountered, I have tried to follow them day by day in their exciting discoveries.

I have based my narrative of Cabrillo upon the condensed and unsatisfying chapters in Herrera (B), and have corrected several mistakes and deciphered one or two obscure passages.

Of the narrative supposed to embrace the whole voyage of Cabrillo and Ferrelo, I have freely used the translation made by Mr. Richard Stuart Evans as printed with introductory remarks by Mr. H. W. Henshaw (H), but in critical passages where important issues were involved I have examined the original (C) and made my own translations.

Of the voyage of Ulloa, I have had recourse to the short narrative given in Burney and translated from (A).

Of the voyage by Drake, I have collated from the "English Hero" (D), and the "World Encompassed" (E), with reference to the *Portus Novæ Albionis* in the margin of Hondius' map; and to this map I have reduced the Coast Survey chart of the vicinity of Drake's Bay to correspond in scale and in orientation, whereby I have identified his bay.

In the voyage of Vizcaino I first trusted to the English translation of Venegas' narrative, but I found it so uncertain in critical positions that I had recourse to the original (F); and I have used Vizcaino's chart of the coast exhibited in Burney, Part II of his series of volumes of Voyages and Discoveries (G).

For details of some of the points and anchorages south of Todos Santos Bay I have used the Coast Survey charts of 1874 and the descriptions of the "West Coast of Mexico, from the Northern Boundary," published by the Hydrographic Bureau of the United States Navy (I).

To preserve accuracy and consistency of description on the coast north of Mexico, I have referred to the manuscript of the fourth edition of the "Coast Pilot of California, Oregon, and Washington" (J), and constantly to the charts of the United States Coast and Geodetic Survey.

The full titles of these authorities are appended to this introduction with the reference letters.

In order to present as clearly as practicable the descriptions of localities by the different navigators, I have drawn them up in three parallel columns, preserving in the case of Cabrillo and Ferrelo the whole of their narratives. My notes and remarks have been placed in another column. At the close I have added a condensed tabular statement of the names and positions of the seventy places mentioned by Cabrillo and Ferrelo and which I have identified. In the narratives I have occasionally added a note or condensed statement in brackets [].

In regard to the name "California," I extract the following note from the California Coast Pilot already referred to:

"The name California is first found in the worthless romance 'Las Sergas of Esplandian, the son of Amadis of Gaul, written by Garcia Ardonez de Montalvo, the translator of the Amadis. It was first printed in 1510, with editions in 1519, 1521, 1525, 1526 (two), 1575, 1587, and the recent reprint of 1857.*

"The name appears in several passages, of which the following are given:

"Know that, on the right hand of the Indies, very near to the Terrestrial Paradise, there is an island called California, which was peopled with black women, without any men among them, because they were accustomed to live after the fashion of Amazons.

"In this island called California are many Griffins, on account of the great savageness of the country and the immense quantity of wild game found there.

"Now in the time that those great men of the Pagans sailed (against Constantinople) with those great fleets of which I have told you, there reigned in this land of California a Queen, large of body, very beautiful, in the prime of her years, &c.

"The name California next occurs in the memoirs of the Conquistador, Bernal Diaz del Castillo, who served with Cortes in the conquest of Mexico. He writes that "Cortes again set sail from Santa Cruz and discovered the coast of California." Here Cortes remained for some time, disheartened at the want of success of his various expeditions. The viceroy, Mendoza, dispatched

* The full title of the book is "Las Sergas del Mey Esforzado Cabalero Esplandian hijo del excelente re Amadis de Gaula."

a vessel under the command of Ulloa with letters to Cortes. "Ulloa had a most favorable voyage and soon arrived in the harbor where Cortes lay at anchor. The letters of his wife and those of his children, and of the viceroy, had so much effect upon him that he gave the command of his vessel to Ulloa, embarked for Acapulco, and when he had arrived there hastened to Quauhnahuac, where his wife resided. * * * Shortly after, also, the troops arrived which had been left behind in California."

"After a few months' repose Cortes sent out a more considerable expedition, under command of Ulloa. "This armament left the harbor de la Navidad in the month of June of one thousand five hundred and thirty, and so many years—I forget the exact year."

"The California referred to above is the peninsula of that name, generally known as Lower California, and the date 1535. They are the only times in which Diaz uses the name. (Cap. C. C.)

"In 1539 Francisco de Ulloa determined Lower California to be a peninsula. This fact appears to have been subsequently forgotten, for it was called La Isla de Las Carolinas, in honor of Charles II of Spain, and late in the last century the charts continued to delineate it as a great island parallel to the continental coast.

"The name California was gradually used to designate the region from the Gulf of California to the mythical "Straits of Anian," (which were very probably Bering Straits).

"The country was called New Albion by Sir Francis Drake in 1579.

"In recent times the region north of San Diego was called Alta California, and that to the south Baja California."

I cheerfully express my thanks to John T. Doyle, esq., and to H. H. Bancroft, esq., of San Francisco, for courtesies extended in my examination of some of the older authorities; and to E. J. Molera, esq., for assistance in rendering several old Spanish idiomatic phrases.

The principal works which I have consulted are—

(A) *Ulloa*.—There is no Spanish record or book of his explorations. The Italian account is in the third volume of the Navigations and Voyages of Gio. Battista Ramusio, pp. 339–354, published in Venice in 1565. It is published in English, in Hakluyt, Voyages III, pp. 397–424. The title is:

Ulloa. Relazione della Scoprimiento che nel nome di Dio va à far l'armata dell' illustrissimo Fernando Cortese, Marchese di Valle con tri Navi, chiamata l' una Santa Agata, di Grandezza di dugento quaranta botto, l' altra, la Trinita, di grandezza di settanta e la terza San Tomaso, di quarata, dellaquale armata su Capitano il molto Magnifico Cavaliero Francesco di VLLLOA habitator della città di Merida.

(B) *Cabrillo*.—Historia General de los Hechos de los Castellanos en las Islas y Tierra Firme del Mar Oceano, Eserita por Antonio de Herrera Coronista Mayor de Su Magestad de las Indias y Coronista de Castilla y Leon Decada Setima al Rey Nuestro Señor En Madrid en la Oficina Real de Nicolas Rodriguez Franco 1730. Con Privilegio de Su Magestad.

Libro Quinto Cap. III. Del viaje que hicieron dos Navios, que embiò Don Antonio de Mendoza à descubrir la Costa de la Mar del Sur, desde Nueva-España. Cap. IV. Que prosigue el descubrimiento de los dos Navios de Don Antonio de Mendoza por la Mar del Sùd.

(C) *Ferrello*.—Coleccion de varios documentos Para la Historia de la Florida y tierras adyacentes. Largas en fazañas é cortos en descrebillas. Tomo I. En la casa de Triibner y Compañia. Núm. 60, Paternoster Row, Londres. (Se han tirado 500 Ejemplares por José Rodriguez, Madrid, Año de 1857, p. 173. Mar del Sur. 1542. Relacion, ó diario, de la Navegacion que hizo Juan Rodriguez Cabrillo con dos Navios, al descubrimiento del paso del Mar del Sur al Nortes desde 27 de Junio de 1542 que Salíó del puerto de Navidad, hasta 14 de Abril del Siguiente año que se restituyó á él, naviendo llegado hasta el altura de 44 grados, con la descripcion de la Costa, puertos, ensanadas, é islas que reconoció y sus distancias, en la extension de toda aquella costa.

(D) *Drake*.—The English Hero: or, Sir Francis Drake revived. Being a full account of the dangerous Voyages, admirable Adventures, notable Discoveries, and magnanimous Athievements, of that valiant and renowned Commander. I. His Voyages in 1572, to Nombre de Dios in the West Indies, where they saw a Pile of silver Bars nearly 70 Feet long, 10 Feet broad, and 12 Feet high. II. His encompassing the whole World in 1577, which he performed in two Years, and ten Months, gaining a vast quantity of Gold and Silver. III. His voyage into America in 1585, and taking the towns of St. Iago, St. Domingo, Carthagena, and St. Augustine. Also his worthy

actions when Vice Admiral of England in the Spanish Invasion, 1588. IV. His last voyage in those Countries, in 1595, with the manner of his Death and Burial. Recommended to the Imitation of all heroic Spirits. Enlarged and reduced into Chapters with Contents. By R. B. The twelfth Edition. Dublin: Printed for G. Golding at the King's Head in High-street, 1739.

(E) *Drake*.—The World Encompassed by Sir Francis Drake, Being his next voyage to that to Nombre de Dios. Collated with an Unpublished Manuscript of Francis Fletcher, Chaplain to the Expedition; with appendices illustrative of the same Voyage, and Introduction, by W. S. Vanx Esq. M. A., London: Printed for the Hakluyt Society, M.D.CCCLIV.

(F) *Venegas*.—Noticia de la California, y de su conquista temporal y espiritual hasta el tiempo presente, sacada de la Historia Manuscrita, formada en Mexico año de 1739, por el Padre Miguel Venegas, de la Compañía de Jesus: y de otras Noticias, y Relaciones antiguas, y modernas: Anadida de Algunos mapas particulares; y uno general de la America Septentrional, Assia Oriental, y Mar del Sur intermedio, formados sobre las Memorias mas recientes, y exactas, que se publican justamente: dedicada al Rey Ntro. Señor por la Provincia de Nueva-Espana, de la Compañía de Jesus. Tomo Tercero. Con licencia En Madrid: En la Imprenta de la Viceda de Manual Fernandez, y del Supremo Consejo de la Inquisicion. Año de M.DCC.LVII.

(G) *Burney*.—A Chronological History of the Voyages and Discoveries in the South Sea or Pacific Ocean. Part I. Commencing with an account of the earliest discovery of that Sea by Europeans, and terminating with the Voyage of Sir Francis Drake, in 1579. Illustrated with Charts by James Burney, Captain in the Royal Navy, London: printed by Luke Hansard, near Lincoln's-Inn-Fields, and sold by C. and W. Nichol, Bookseller to His Majesty, Pall Mall; G. and J. Robinson, Paternoster Row; J. Robson, New Bond Street; Mem's Gate; and Cadell and Davis, in the Strand, 1803.

(H) *Engineer Department U. S. Army*.—Report upon United States Geographical Surveys west of the one hundredth meridian, in charge of First Lieutenant Geo. M. Wheeler, Corps of Engineers, U. S. Army, under the direction of Brig. General A. A. Humphreys, Chief of Engineers, U. S. Army. Published by authority of the Honorable Secretary of War, in accordance with acts of Congress of June 23d, 1874, and February 15th, 1875, in several volumes, accompanied by one topographical and one geological atlas. Vol. VII. Archaeology, Washington: Government Printing Office, 1879. (Appendix to Part I, Vol. VII, pp. 292-314.)

(I) *No. 56 U. S. Hydrographic Office—Bureau of Navigation*. The West Coast of Mexico, from the Boundary Line between the United States and Mexico to Cape Corrientes, including the Gulf of California. Washington: Government Printing Office. 1880.

(J) *United States Coast and Geodetic Survey, E. M. Thorn, Superintendent*. Pacific Coast. Coast Pilot of California, Oregon, and Washington. Fourth edition: By George Davidson, Assistant. 1886. [Yet in manuscript, August, 1886.]

The work upon this investigation has been done at intervals, independently of the regular duties of the U. S. Coast and Geodetic Survey, and has therefore been a long time in hand.

SAN FRANCISCO, CAL., August, 1886.

GEORGE DAVIDSON.

DAVIDSON.

FERRELO.

The Port of Navidad is in latitude $19^{\circ} 13'$ N. and twenty miles west-northwest from the harbor of Mansanilla.

El Cabo de Corrientes, in $20\frac{1}{2}^{\circ}$, Cabrillo. Latitude $20^{\circ} 25'$: correction to Cabrillo, $-0^{\circ} 05'$ if he observed the latitude, which I very much doubt.

Thirty leagues, by the charts.

La Bahía de Santa Cruz, Ulloa.

El Puerto de la Cruz, 24° and "more," Cabrillo.

El Puerto del Marques del Valle.

(The Emperor had given Cortes the title of Marques del Valle del Quaxaco in 1528.) This port is probably the cove under Cape Pulmo.

The Point of California "in 24° and more," is quite likely the present Cape Pulmo which is the easternmost land of the peninsula of Lower California, and placed in latitude $23^{\circ} 23'$, so that the correction to Cabrillo would be $-0^{\circ} 37'$ "and more." Hence to Cape San Lucas following the coast line the distance is 44 geographical miles.

The cliffs at Cape Pulmo are 410 feet above the sea, and within a mile the hill rises to 850 feet with a low neck or valley behind it, so that from the northward or southward this hill presents a notable feature. Inside of this the mountains eight miles westwardly rise to 2,885 feet, while Miraflores of the Sierra la Victoria, 27 miles from the gulf shore, rises to 6,200 feet elevation: the former is visible, at 62 miles distance, the latter at 91 miles.

On the south side of Cape Pulmo there is a nice cove three-quarters of a mile deep where anchorage may be had in ten fathoms within two hundred yards of the beach. Fresh water is found in the arroyo which opens on the cove.

This bay is probably the Puerto del Marques del Valle where one of Cortes ships put in during the expedition of 1534, and where Ximenes the Captain (who had mutilated as pilot) was killed. The bay of Santa Cruz was visited by Cortes himself in 1536. In 1596 El General Vizcaino, under orders of Don Gaspar de Zuniga Conde de Monte-Rey, visited the eastern shore of the southern end of the Peninsula of California and remained eight days at the Puerto de San Sebastian, but abandoned it for a more convenient place, and sailing further they came to the Puerto de la Paz. This Puerto de Santa Cruz may therefore be reasonably considered the same as that of the Marques del Valle.

Juan Rodriguez set sail from the Puerto de Navidad to discover the coast of New Spain on the 27th day of June, 1542.

He was delayed from the Puerto de Navidad to Cabo Corrientes a day and a night, forty leagues, with a southeast wind.

From Wednesday to the following Thursday they held their course along the coast thirty-five leagues.

Sunday, the second day of July, they had sight of California: they were delayed in crossing over, by the weather, which was not very favorable, almost four days; they anchored the following Monday, on the third of the same, off the Point of California, and were here two days, and from this place

CABRILLO.

Don Antonio de Mendoza took more interest in maritime matters, for notwithstanding the vessels he had sent to discover that part of the coast of New Spain, towards the South, had suffered a great deal, he sought, by every means, to know what there was further on, and for that purpose he ordered two vessels to be fitted out, and appointed for Captain of them Juan Rodriguez Cabrillo, a Portuguese, a person very conversant with the matters of the sea.

One of the vessels was named the San Salvador, which was the flagship, and the other La Victoria; there was for chief pilot Bartolomé Ferrer, and also for pilot Bartolomé Fernandez; and for masters Antonio Carrera, and S. Remo.

These vessels being quickly made ready, they sailed from the Puerto de Navidad, on the twenty-seventh of June, of the present year, [1542,] at noon, and arrived early in the morning at Cabo de Corrientes in twenty degrees and a half.

Friday, on the 30th, running along the coast, they found themselves in twenty and two degrees, and a third.

Sunday, on the second of July, they found themselves in twenty and four degrees and more, and recognized the Puerto del Marquez del Valle, which they called de la Cruz, which is the Coast of California.

ULLOA AND VIZCAÏNO.

VIZCAÏNO.

[Vizcaino, with his three vessels and a long boat, left Puerto de la Navidad on the twenty-second of May 1602; continuing his course with adverse winds nearly to Cape Corrientes where he arrived on the twenty-sixth; and after a survey of that vicinity he proceeded along the Coast to Mazatlan, where he arrived June second.]

ULLOA.

“On the eighteenth of October, they reached the bay of *Santa Cruz*. October twenty ninth, [1539], Ulloa sailed with the *Santa Agueda* and the *Trinidad*, from the bay of *Santa Cruz*, to follow, as before, the trend of the coast: but being impeded by contrary winds, he had advanced on the tenth of November not more than fifty-four leagues from the bay of *Santa Cruz* towards the south and south-west.”

VIZCAÏNO.

[From Wednesday to the following Thursday they held their course along the coast of New Spain thirty-five leagues.]

“Sunday, on the second day of July, they had sight of California: they were delayed in crossing over [the Gulf of California] by the weather, which was not very favorable, almost four days; they anchored the following Monday, on the third of the same month, off the Point of California, and were here two days.”

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El Puerto de San Lucas, "They say it is in latitude 23° ," Ferrelo:

La Bahía de San Bernabè, Vizcaino:
San Lucas Bay; latitude $23^{\circ} 52'$.

Correction to Ferrelo, $-0^{\circ} 08'$. Either Ferrelo obtained the latitude at second authority, or his instrument was badly deranged thereafter, as well as at Santa Cruz; I think the former.

It was in this harbor of San Lucas that the English navigator Cavendish, in 1587, captured, plundered, and burnt the Spanish galleon Santa Ana from the Philippines. This name suggests this bay as that where the Mexican astronomers observed the Transit of Venus in 1769, when the French expedition under Anteroche de la Chappe occupied a station at San Jose del Cabo, a few miles eastwardly, which I recovered in 1873.

San Lucas Bay affords good anchorage and shelter from the northwest and southwest winds, but it is open to the sea from the south to the east, rendering it exceedingly unsafe during the summer and autumn, or wet season, when the gales are very frequent and violent. The best anchorage is in six or seven fathoms of water, a quarter of a mile from the beach. Wood and water are obtained here.

Vizcaino gives a full description of the natives, the fresh-water lake, the fishes, and the productions of the land.

La Punta de la Trinidad. Cabrillo; Ferrelo in 25° . This is undoubtedly

Cape Tesco, in latitude $24^{\circ} 17'$. Correction to Cabrillo and Ferrelo, $-0^{\circ} 43'$.

From Cape San Lucas to Cape Tesco, a distance of 130 miles, or 43 leagues, there is no prominent point or indentation of the coast line, except immediately under the latter cape. The shore is marked by long lines of dreary sand dunes, except near Cape Falso and half way hence to Cape Tesco, where there is a "low, rocky point called the Point del Marques. A reef of rocks extends a short distance out from it, and on either side near the coast are low sandy bluffs."

"Vessels may anchor anywhere along this part of the coast in fine weather in from 8 to 10 fathoms, a mile or two from the beach. The soundings are regular, and there are no hidden dangers. The beach is generally steep, and the breakers close to it."

Immediately behind this point the land rises to "Las Mesas," or table-lands, of 600 feet elevation. To the southeastward stretches a great chain of mountains, reaching Cape San Lucas, and ranging from 4,000 to 6,200 feet elevation; and visible at a distance of ninety-one miles.

The point is laid down on the U. S. Coast Survey chart in latitude $23^{\circ} 56'$ north, and the indications are against any anchorage when the northwest winds are blowing; although Ulloa anchored eight or ten leagues to the southeast of Puerto Trinidad. Vizcaino met with strong currents from the northwest along this stretch of coast.

There must be some omission in Ferrelo's narrative wherein he gives the distance of five leagues from Cape San Lucas to Cape Tesco. The actual distance is 43 leagues along the coast. His estimates are so vague that

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they reached the Puerto de San Lucas the following Thursday, and took in water; they saw these days no Indians: they say [dizen] that this port is in twenty-three degrees, and from the point to the port it is clear and soundable, and the land is bare and rugged.

They departed from the Puerto de San Lucas Thursday, the 6th, in the night, and the following Saturday, on the eighth of the said month, they cast anchor under the Punta de la Trinidad, which is in twenty-five degrees; it is from San Lucas five leagues;¹ it is a clean coast without any irregularity; within, on the land, appear high and bare and rugged ridges; they were at anchor here on account of contrary winds from west-northwest until the following Wednesday.

CABRILLO.

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ULLOA.

"The country near the southern cape of California was beautiful, and appeared to be well inhabited. The shore was bold, the least depth, as they sailed, being fifty-four fathoms.

The coast [bordering the Pacific Ocean] was soon found to take a northern direction, and their progress was opposed by a long continuance of northwest winds. The two ships were separated and rejoined twice within the first month after quitting Santa Cruz."

VIZCAÏNO.

"The squadron of Vizcaino entering this bay under Cabo de San Lucas, on the feast of San Barnabas [June 11th], it was called after the name of that Saint. * * * In this bay the squadron lay some days to wait for the change of the moon, repair the ships, and take in wood and water. * * * (P. 38.) Three times the squadron sailed out of the bay, and were as often through the violence of the wind and the roughness of the sea, obliged to put back. They again set sail on the 5th of July, which was the fourth time (p. 46)."

On the eighth day of the same month, they found themselves in twenty and five degrees, which is la Punta de la Trinidad.

ULLOA.

[On the first of December, they anchored near the coast, and boats went to procure water; in doing which, they were attacked by the natives. Captain Ulloa and some others were wounded, not dangerously,] "and Berecillo, their best mastiff dog, (they had two others) was wounded with three arrows, and would no more return to the charge."

[Near this watering place they found a bay or port, with three fathoms depth at the entrance, and deeper water within. No latitude is mentioned.]

VIZCAÏNO.

"And coming near the shore on the 8th of the month, facing some highlands, they were becalmed, that in a week they did not gain a single league; and on this account they gave that high land the name Sierra del Enfado, or Mount Tiresome (p. 47)."

[On his chart Vizcaino simply says "This coast is free from dangers" half way to Cape Tosco, and hence to Tosco "low beaches." The chart has a weak point near the present Point del Marquis.]

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no supposition can fairly be made as to what he intended to say.

La Punta de la Trinidad, 25°, *Cabrillo*.

El Puerto de la Trinidad, 25°, *Ferrelo*.

La Bahía de San Abad, *Ulloa*.

La Bahía enganosa de Santa Marina, *Vizcaino* (p. 51).

El Puerto del Marqués, o de Santiago of *Vizcaino* (p. 52).

La Bahía de Santa Marina, *Vizcaino's* chart.

Santa Marina Bay, in latitude 24° 20'.

Santa Margarita Island. It is twenty-two miles long, about five miles broad at the broadest place, and rises in barren peaks to 1,900 feet elevation.

El Puerto de San Pedro, 25½°, *Ferrelo*.

El Puerto de la Magdalena, *Vizcaino* (p. 49).

La Bahía o Puerto de la Magdalena, *Vizcaino*, pages 50, 52, and chart.

Magdalena Bay is in latitude 24° 32'; correction to *Ferrelo* —0° 58'.

This large and spacious bay with a fine entrance three miles wide, with very deep water and high headlands, is well protected by great mountain barriers from the Pacific Ocean winds.

The magnificent sheet of water is thirty-five miles long by twelve miles broad, but is divided by a narrow throat into Magdalena Bay proper on the north, and Almega Bay on the south; the latter again opening southward into Santa Marina Bay. The depth of water in the two main bays is over ten fathoms. From the northern part of Magdalena Bay there is connection with a long line of lagoons running for sixty miles northward, and lying just inside the coast sand dunes. These lagoons have several openings to the sea, through the dunes, and were formerly the resort of innumerable whales.

El Morro Redondo, *Vizcaino's* chart.

Cape Redondo, in latitude 24° 32'.

The northern point of the entrance to Magdalena Bay is Entrada Point.

La Bahía de San Martín, *Ferrelo*.

La Bahía de Santa Marta, *Vizcaino's* chart.

Santa Maria Bay, latitude 24° 44'.

This bay is four leagues northwestward from the entrance to Magdalena Bay, and lies broad open to the southwestward. It is eight miles between the northwest and southeast points of the entrance, and it is four and a half miles deep towards the northeast. The soundings decrease regularly from twenty fathoms to three fathoms at the sandy beach, which is backed by sand dunes. There are no dangers except a line of rocks extending half a mile from Cape Lazaro, which forms the northwest point. Inside the bay, on the east side of Cape Lazaro, there is good anchorage in six fathoms of water over sandy bottom. The southeast point of entrance to the bay is Cape Cerro. When *Cabrillo* had reached El Puerto de la Magdalena or *Pequeña*, in latitude 27° by his reckoning, he says "This puerto is forty leagues from the bay of San Martín;" this would put it approximately in his latitude of 25°; but he makes no mention of such a port in his narrative when he was sailing past that part of the coast; although he had just left Santa Marina Bay and

Wednesday, on the twelfth day of said month, they departed from this place. In Puerto de la Trinidad, an island forms the port which is here, and it is a good port, sheltered from the west-northwest winds; the port of the island is at the head of the island on the southeast side, and the port is clear and soundable; it has neither wood nor water; the island has ten leagues of length and two leagues of breadth; they anchored that night.

They departed the Thursday following, and passed the Puerto de San Pedro, which is in twenty-five and a half degrees; in this port there is no water nor wood; its direction is southeast; it has a good shelter from the west winds;

CABRILLO.

ULLOA AND VIZCAÏNO.

ULLOA.

"Eight or ten leagues farther to the Northwest, they came to some inlets like passages between islands, into one of which they sailed, and found a good harbor entirely enclosed with land, which they named Bahía de San Abad. The latitude is not given. In this port they took a supply of water, and at this part of the coast they had intercourse with the natives, who exchanged pearl shells and feathers for beads and other trinkets; but this traffic was conducted with much caution and distrust, and their separation was not friendly."

VIZCAÏNO.

"(P. 49.) Vizcaïno's flagship entered the bay on the 20th of July, 1602, but her consort did not on account of the fogs. The next day some soldiers ascended the mountain and saw her consort sailing northward. The Capitana being thus alone on Santa Magdalena's day, the father Commissary and Father Tomas said mass ashore; and on account of this festival the bay was named La Bahía, or Puerto de Magdalena; it is very spacious, with several safe coves and anchoring places; has two entrances, and through it a wide arm of the sea runs up into the country. * * * (P. 50.) The frigate subsequently entered the bay, joined the Capitana, and both left in company (p. 51)."

[Vizcaïno's chart gives his anchorage in the Bay, the soundings, and the eastern passage to Santa Marina Bay. He designates it as La Bahía de la Magdalena; and the southern point of the entrance is named Morro Redondo.]

[About five miles beyond Magdalena Bay he discovered the entrance to what appeared a very dangerous bay, but it had been entered by the Almiranta and is named on the chart La Bahía de Sta. Marta.]

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looked into the present Magdalena Bay. As there is no other port immediately north of Magdalena Bay, it is reasonable to assume that La Bahia de San Martin and Santa Maria Bay are the same ports.

La Punta de San Lazaro, Vizcaino's chart.

Cape San Lazaro, in latitude $24^{\circ} 48'$.

From Cape San Lazaro the coast line takes a decided change of direction from west-northwest to north (magnetic), and also changes from the high mountainous range from Cape Tosco to Cape San Lazaro, to one that is low, sandy, and only broken by the entrance to great lagoons that stretch sixty miles northward from Magdalena Bay.

It is very probable that the receding of this low shore caused Ferrelo to designate it the head of a large *ensenada* or gulf; or else that he saw the great lagoons from the mast-head; in either case they would head in about latitude $24^{\circ} 50'$ or $25^{\circ} 00'$.

La Bahia de San Christoval, Vizcaino. In this *ensenada* is the entrance to the Boca de San Domingo, in latitude $25^{\circ} 21'$. It is three-quarters of a mile wide, with a shoal extending a mile off the entrance. There is a depth of seven and a half feet of water upon it at high tide. The southern end of the lagoon heads in Magdalena Bay, and also stretches northward thirty miles. A very low country lies to the eastward of it.

El Puerto de la Magdalena, 27° , Cabrillo and Ferrelo.

Pequeña Bay, in latitude $26^{\circ} 14'$. Correction to Cabrillo and Ferrelo,— $0^{\circ} 46'$. The distance from Santa Maria Bay is only thirty leagues.

This is a bay formed by an indentation of the coast, one and a half miles to the northward. The rocky point on the west is composed of volcanic bluffs thirty feet high, with a hill eighty-five feet high. The country is low, with sand dunes and lagoons farther in shore.

Vessels find shelter from the northwesterners by anchoring in six fathoms of water one mile northeastward from the point. There is a large estero behind the point, but in some seasons it has no opening to the sea.

Vizcaino has a line of soundings along the shore from Cape Lazaro nearly to Point Abreojos, ranging from thirty to fifteen fathoms of water. And he has two indentations corresponding very nearly in position to Pequeña Bay and the open roadstead under Point San Domingo. His chart says this is a "broken, ragged coast," and inland "mountainous." Both statements are true. The charts of 1874 named the point forming Pequeña Bay, San Domingo; but on the latest charts it has no name, and San Domingo is transferred to the point thirteen miles to the west-northwest.

La Punta de Santa Catalina, Ferrelo.

San Domingo Point, of the latest charts; it is in latitude $26^{\circ} 19'$, and thirteen miles west-northwest from Pequeña Bay.

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they continued sailing along the coast, which forms a large gulf, the head of which is in twenty-six degrees; the land is low and covered with sand dunes, the coast white and clear; they proceeded, sailing along the coast with fair winds

as far as twenty-seven degrees, and Wednesday, on the nineteenth of the said month, they landed at a port which they discovered, and going on shore they found a path used by Indians, and followed it the distance of an arquebuse shot, where they found a spring of water; the land is level within and bare and very dry; they gave it the name of Puerto de la Magdalena; it is forty leagues from the Bay of San Martin to this port.

The following Thursday, on the twentieth of this month, they departed from this port and proceeded, sailing along the coast with contrary winds, and about six leagues from that place they found an anchorage behind

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[On Vizcaino's chart he names the head which forms the northwest point of Santa Maria Bay, La Punta de San Lazaro.]

"The whole coast beyond this cape is level and pleasant; and has only a few mountains in the inland country."

"On the 30th of July, they had sight of a bay, which seemed to be formed there by the issue of a river. * * * (P. 52.) There were breakers at the entrance. * * * This place or gulf had been surveyed by the Almiranta. It was named the Bahia de San Christoval, * * * because it was surveyed on the anniversary of that saint." (P. 53.)

[The chart designates it as a "low coast."]

Wednesday, on the nineteenth, they discovered a port which is of good protection, which they called La Magdalena, in twenty-seven degrees, and here they took in water.

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San Domingo Point is a remarkable perpendicular rocky cliff of dark color, rising one hundred and seventy-five feet above the sea. The cliffs extend for several miles east and west of the Point. A short reef stretches out from the Point in a southwesterly direction. Anchorage may be had to the eastward of the Point, under its lee, in five or six fathoms of water, half a mile from the shore, where a vessel will find some protection from the prevailing wind.

To the northwestward of this Point a long line of lagoons lies just inside the sand dunes. Behind the lagoons the land is low and sandy and then rises gently to low table-lands. The mountains are from twenty to thirty miles inland.

El Puerto de Santiago, $27\frac{1}{2}^{\circ}$, Ferrelo.

La Bahía de las Ballenas, Vizcaino.

Ballenas Bay, latitude $26^{\circ} 45'$.

San Ignacio Lagoon, under Abreójos Point, in latitude $26^{\circ} 42'$; correction to Ferrelo, $-0^{\circ} 45'$. It is 76 miles from Pequeña Bay, and 54 miles from San Domingo Point.

The whole bight east and southeast of Abreójos Point, for fifty miles, is bordered by low sandy shores, behind which stretch immense lagoons, which were the former haunts of the humpback whale. The San Ignacio Lagoon, seventeen miles east-northeast from Abreójos Point, penetrates twenty miles northward and has a channel that admitted whaling vessels (1854). Between this lagoon and Abreójos Point there is another large lagoon not named. From Ignacio Bay to San Domingo Point there is the long line of narrow lagoons already mentioned. The early navigators may very readily have imagined an extensive and deep bay lying well to the eastward of Point Abreójos, and stretching eastward and northward from and forming part of the Puerto Santiago. The highlands for thirty or forty miles retreat inland behind the San Ignacio Lagoon or Puerto.

The open bay just inside Abreójos Point is named Ballenas Bay; it is sixteen miles broad, east and west, and seven miles deep, north and south. The depth of water in it ranges from twenty fathoms to three fathoms close under the beach. The Point affords good protection from the prevailing winds of summer. An anchorage is had in six to seven fathoms of water over sandy bottom. With strong winds a large swell rolls in, causing a heavy surf on the beach.

The Point itself is low and sandy, with a long narrow lagoon stretching to the west-northwest. There is a barren hill 277 feet high three miles inside the Point. On its southeast side there is a pond with brackish water in it during the dry season. A ridge running north-northwest from the Point rises to mountains in twenty miles.

La Punta de Santiago, Ferrelo.

Abreójos Point.

Habre Ojo (Rocks), "Keep your eye open", $27\frac{1}{2}^{\circ}$ and "more," Ferrelo.

The Abreójos Rocks, latitude $26^{\circ} 46'$.

Correction to Ferrelo, $-0^{\circ} 44'$ "and more.

Whale Rock.

These dangers lie three miles west-southwest from Abreójos Point, and are about two miles in extent. One of them, Whale Rock, is four feet above water; the rest

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a point, which they called Punta de Santa Catalina, and so they continued sailing along the coast,

and the Tuesday following, on the twenty-fifth of the said month of July, they discovered a large bay in twenty-seven and a half degrees; they made very little progress these days on account of the bad weather; they dropped anchor in this port and gave it the name of Puerto de Santiago; it is distant from Puerto de Madalea twenty-three leagues;

there are from Punta de Santiago for five leagues some very dangerous shoals and rocks, and they do not appear except when the sea breaks upon them; they are one league from the land, and in a little over twenty-seven and a half degrees; they are called Habre Ojo.

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"And the same night [July 30th] (p. 53), they continued their voyage until they came to the Bahía de las Ballenas; when approaching it, "at a considerable distance they saw a large bay, * * * (p. 54), but on approaching, it was found to be as it were intercepted by shoals.

* * This bay [Ensenada] had been surveyed by the Almiranta, who gave it the name of Bahía de Ballenas on account of the multitudes of that large fish they saw there." They could not land for two days. The country is quite populous and the Indians peaceable.

[Vizcaino's chart exhibits this great bight east of Abreójos Point, with a long barrier of sand through it as if guarding the lagoons behind it. In front of this barrier is the legend "Arrecifes."]

[Vizcaino's chart has the sunken rocks off the point named "Abreojos;" and he evidently anchored under the point as his anchor denotes.]

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are sunken. The distance around them and the danger just off the point is eight or nine miles.

La Bahia de San Hipolito, Vizcaino's chart.

San Hipolito Bay, latitude $26^{\circ} 58'$.

This open bay is formed by the indentation of the coast line east of Point San Hipolito. The eastern shore runs north for three miles and then sweeps to the eastward and southeastward for ten miles. Good anchorage may be had under the lee of the Point in five to seven fathoms of water over a sandy bottom, at half a mile from the low shore.

San Hipolito Point is quite low, and composed of black rock with barren sand hills fifty to one hundred feet high, rising a short distance from it. There is a sandy shoal extending over a mile from the Point.

A remarkable table-shaped mountain, of 1,227 feet elevation, lies five and a half miles north (magnetic) from the Point. Behind this rise higher mountains, three thousand feet in elevation.

Sierra de los Siete Infantes, Vizcaino.

These seven peaks are in the mountain range, lying between Abrejos Point and San Roque Island, and about fifteen miles inland. They are not recognized on any of the charts to date. The range reaches an elevation of 3,400 feet.

Punta y Puerto de Santa Ana, 28° , Ferrelo.

Asuncion Point, latitude $27^{\circ} 07'$. Correction to Ferrelo, $-0^{\circ} 53'$.

It is forty-seven miles in a straight line from Abrejos Point.

It is a low, sharp, bluff Point, with a cone-shaped hillock about seventy-five feet high at its outer extremity, and moderately high hills a short distance inland.

Asuncion Island.

San Roque Island.

These are the islands discovered by Ulloa, but not then named; nor were they named by Cabrillo.

Las Islas de San Roque, Vizcaino in the Almiranta.

La Isla de la Assumpcion, by the Capitana; this is the first or southern islet.

La Isla de San Roque, Vizcaino.

They are both named on his chart, with an anchorage under each.

Asuncion Island lies a little more than three-quarters of a mile to the south-south east of Asuncion Point, and is placed in latitude $27^{\circ} 06'$. It is three-quarters of a mile long, and less than a quarter of a mile wide; of sandstone formation, and entirely barren; towards its southern end some hills reach an altitude of one hundred feet.

The Island of San Roque is a rugged rock, one mile long east and west, less than half a mile wide at its broadest part, and about forty feet above the sea. It lies in the middle of San Roque Bay, about two miles from the shore, and has dangers off its eastern extremity.

It is in latitude $27^{\circ} 08\frac{1}{2}'$, and is twenty-five miles from Point San Hipolito, and six miles from Asuncion Island.

They proceeded sailing on the same course along the coast, as far as twenty-eight degrees, and there anchored under shelter of a point. Here are groves of trees which they had not seen from the Point of California; it is from this point to Puerto de Santiago at the northwest point twenty-three leagues. There are high and broken ridges with some woodland. We gave it the name of Santa Ana;

It has an islet about a league from the land.

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[Vizcaino's chart locates a bay about half way between the Abreójos and Asuncion Island; he designates it as la Bahia de San Hipolito (p. 56). They sailed up it, and came to an anchor; but some soldiers being sent ashore in search of wood and water, they found the country everywhere extremely barren, and therefore returned on board (p. 56).]

"Midway between the bay of Ballenas and the Islands of San Roque there is a high Sierra from which project seven high and distinct peaks in line, and which have been named de las Siete Infantes [the seven Infants] (p. 56).

ULLOA.

"Almost the whole month of December [1539] the winds blew from the northwest, in which direction the coast was found to continue. At times they advanced a little, but at other times they were driven back. The first of January [1540] they arrived in sight of two small islands near the mainland;

VIZCAÏNO.

[Vizcaino in the Almiranta was separated from the Capitana and Fragata, and discovered the Islas de San Roque (p. 56-57). The Capitana coasting under the same shores reached the first island on the evening of the Assumption (August 5th) and gave it the name Isla de la Assumption; the other island was two leagues further on, to which he sailed, and under which he anchored.]

"The island is of middling size, the soil sandy and gravelly, and covered with sea gulls. In some of the coves there are infinite numbers of sea wolves."

This island was named Isla de San Roque (p. 59).

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El Puerto Fondo, Ferrelo.

Table Head Cove or San Pablo Bay, in latitude $27^{\circ} 11'$, and about ten miles from Asuncion Point. It is an open bay about one and a half miles deep, formed by an indentation in the face of Table Head between the points named San Roque and San Pablo. It is apparently free from all hidden dangers, and affords good anchorage in from ten to fifteen fathoms of water, at about three-quarters of a mile from the shore.

The great headland, embracing Asuncion Point, San Roque Point, and San Pablo Point, known on our charts as Table Head, has hills 560 to 800 feet elevation, rising directly from the water; and the mountains reach 1,800 feet in six miles inland, and 3,400 feet in fifteen miles. It is the commencement of a very high and mountainous coast line hence to Point San Eugenio.

They anchored in the open bight eight miles east of the Morro Hermoso, and now named the Bay of San Cristoval, but without any claim to being reckoned a bay, for it is twenty-three miles broad and only five miles deep.

El Puerto de San Pedro Vincula, in $28\frac{1}{2}^{\circ}$, "and a little more," Ferrelo.

El Puerto de San Bartolomè, Vizcaino.

Port San Bartolomè, in latitude $27^{\circ} 39'$; correction to Ferrelo, $-0^{\circ} 55'$.

The distance from Table Head Cove is eleven and a half leagues in a direct line.

"Port San Bartolomè is the best harbor on the west coast of Lower California between San Diego and Magdalena Bays. It is nearly circular in its general form, and is about two and a half miles in diameter." "Vessels may anchor anywhere in the bay." "The soundings are very regular, and the bottom sand."

El Morro Hermoso, Vizcaino.

Morro Hermoso (The Beautiful Rock). It is in latitude $27^{\circ} 30'$, and lies twelve miles southeast of Port San Bartolomè and thirty-nine miles southeast from the island of Cerros.

The seaward face of the Morro Hermoso is a bold, rocky cliff rising abruptly from the sea to a hill 900 feet in height. Immediately behind it the mountain rises to 1,536 feet, with higher mountains a little further inland. "Beyond the high and extensive table-lands of Point San Pablo there is a remarkable range of peaks from 2,000 to 3,000 feet elevation, and of variegated colors, corresponding well with Vizcaino's description." Four miles east of the Morro Hermoso there is a peak 2,232 feet high, and only one mile from the shore.

Ulloa, Cabrillo, and Ferrelo do not mention the Morro Hermoso, although the last two were in the Bay of San Bartolomè.

Thirty-five miles broad off the coast, in this latitude, the deep plateau of the Pacific Ocean is reached at 2,355 fathoms.

Island discovered, but not named, by Ulloa.

La Isla de San Esteban, Ferrelo.

La Isla de la Natividad de Nuestra Señora, Vizcaino, in the Almiranta.

Afegua (or Bird Island), Indian name, Taraval, 1734.

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Thursday, on the twenty-seventh of the same month, they departed from said Puerto de Santa Ana, and dropped anchor about six leagues from that place in a port which they named Puerto Fondo, on account of the great depth which it had, as near the land it had thirty fathoms; it is clear; and they departed the following day from the said port, and turned back three times to the said port with contrary winds, and they were in the said port until the following Monday.

Monday, on the thirty-first of the same month, they departed from the aforesaid Puerto Fondo and anchored about eight leagues thence that night, and the next day they departed on their voyage.

Tuesday, on the first day of August, they left that [anchorage] place, and they proceeded about ten leagues, where they anchored in a port to which they gave the name of San Pedro Vincula; this port is in sight of the Isla de Zedros. This port is in twenty-eight and a half degrees, and more; the land is high and rugged and bare; from California to this place we have seen no Indian.

Wednesday, on the second of the said month, they departed from this port, and the wind was contrary, and they proceeded beating; they cast anchor under an island which is four leagues distant from the southeast side of the island of Zedros, and they named this island San

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"The Capitana and Fragata, not being hindered by the winds as the Almiranta was (p. 61), sailed into a good port, which they named de San Bartolomé. It is three leagues before you reach the island of Cerros. * * * They found no water on shore, and the land was extremely dry and sterile. And they found on the beach a resin which did not have a good odor, and which some supposed to be amber, because there were great numbers of whales there. Whatever it was there was enough to load a ship. As this port was discovered on the day of the San Bartolomé Apostol, the twenty-fifth of August, it was so named; and that night they sailed (p. 62).

[The chart shows "a rugged coast, without trees." The bay is well indicated, and an anchorage laid down under the north shore, well inside.]

"(P. 60.) The Almiranta, prosecuting her voyage [northwestward from San Roque Island], came in sight of a very lofty mountain, at the base of which the sea broke, and which was twelve leagues from Cerros Island, which they could not reach. Here, to double the point which the mountain makes, the Almiranta was more than eight days beating against the northwest winds, which were very strong. Every time they tacked they were within a stone's throw of the mountain and the mainland. This mountain has not a single herb or green thing, but it presents an appearance as if painted, and variegated with different colors, like fancy tapes and ribbons of every hue, so that it is a wonderful sight (p. 61). * * * Finally the weather cleared up a little, the sea went down, and they doubled the cape.

When the Capitana and Fragata were in sight of La Sierra Pintada, they did not encounter the strong winds which baffled the Almiranta."

ULLOA.

"On Monday, the 5th of January, 1540, having advanced since the first of the month thirty-five leagues [from the Islands Asuncion and San Roque], they came to two other islands, one of them much larger than the other, lying at some distance from the coast of the mainland.

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Natividad Island, in latitude $27^{\circ} 53'$, and its southern part is three leagues from Cerros Island.

Natividad Island is about three and three-quarters miles long, northwest and southeast, and from half a mile to a mile wide, being broadest at its southeastern end. It rises to 502 feet elevation; is hilly and barren, with mostly steep rocky shores surrounded by detached rocks and kelp. The passage between the island and Point Engenio is nearly four miles wide.

On the southeastern end of the island there is a sand beach half a mile long, and vessels may anchor off this in ten fathoms of water among the kelp. But there are several dangers off this southern end of the island, such as Flat Rock on which the sea breaks continually.

La Isla de los Cedros (Ulloa).

La Isla de Zedros, Ferrelo; in 29° .

La Isla de Cerros, Vizcaino (p. 58 *et seq.*); and the same on his chart.

Amalgua (or Fog Island), Indian name; Taraval, 1734.

Cerros Island, latitude of the southernmost point, $28^{\circ} 02'$.

Correction to Ferrelo, $-0^{\circ} 58'$.

El Cabo de San Augustin, Vizcaino.

Cape San Augustin.

The change of name from Cedros to Cerros was quite natural, for Vizcaino says (p. 67), "Que la Isla de Cerros tendria de box treinta leguas, y en ella vieron grandes Pinares, y Cedros, en las Coronas, de los mas altos Cerros." (That the island of Cerros is about thirty leagues in circuit, and on it we saw great pines and cedars on the summits of the highest mountains.)

The island lies nearly north and south for twenty-one miles, with a broad base of nine miles at the southern end, and an average breadth of four miles. It is of volcanic origin, with numerous high peaks, the highest of which attains an elevation of 3,955 feet. In clear weather these peaks may be seen from a distance of sixty miles. They were probably seen by the explorers from the vicinity of Table Head.

The eastern side of the island is a succession of rocky ledges and ravines, with the land rising abruptly in sharp ridges and precipitous cliffs.

The northern part of the island is formed by broken bluffs, and outlying rocks. A sharp peak, 1,761 feet high, with a crest of cedars, rises just back of this point.

The western side has the same general character as the eastern, but with more outlying rocks. Many of the crests of the western slopes of the mountains sustain cedar sixty to seventy feet in height. The character of the southern shore is much like the eastern, but under both the sea is comparatively smooth, and anchorage may be had in seven to ten fathoms of water close under the shore. Vizcaino notes five such anchorages on his chart. On the southeast side of Cape San Augustin, which is 832 feet in height, lies South Bay with from four to ten fathoms of water. An indentation of two and a half miles forms this bay, where anchorage may be had in seven fathoms of water, close to the shore, and sheltered from the prevailing winds, but open to the southerly gales that occur during the early part of the winter. In

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Esteban. With the extremity [the northern shore] of the point of the mainland running east and west, the coast [to the southward] is northwest and southeast; it [the island] is a league from the mainland: from this point the mainland turns the coast line towards the northeast, and makes a great gulf, so that the land is not visible. Between the island and the mainland there is a good channel, and they had to pass close to the island, for there are rocks which extend in a reef from the point for a quarter of a league. There is much vegetation on the water, that grows from the bottom, and is matted beneath the surface. This island trends with San Pedro Vincula northwest and southeast; this island has three leagues in circuit. We were at this island with the wind contrary until the following Saturday, the fifth of the said month of August. It has a good port on the side towards the southeast. There is much fishing with a hook, and many birds are found.

They departed from the island of San Esteban Saturday, on the fifth day of August, and anchored at the Isla de Zedros, where they remained until Thursday, the tenth of the said month, taking in water and wood. They found no Indians, although they found some sign of them. The leeward point of this island on the south side is in twenty-nine degrees, and it has on this south side good ports and water and wood, and it is on this part bare, as it has only some small bushes. The island is large and high and bare, and runs almost east and west, and is on this side to the south twelve leagues in length.

[See page 184 for mention of the island on the return of the expedition.]

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ULLOA AND VIZCAÏNO.

They were high, and on the top of each were many tall, slender trees."

VIZCAÏNO.

"And the Almiranta proceeded towards the Mountain, or Island of Cerros, passing between the mainland and a small island which they named the *isla de la Natividad de Nuestra Señora* (p. 61).

The Capitana and the tender sailed from Port Bartholomè on the 24th of August, in the night, and they did not see the island of Natividad, but passed close to it (p. 62).

And they named the small island la *Isla de la Natividad*, and it is wholly a desert, with only one sort of wild fennel (p. 68)."

ULLOA.

"The large island was twenty leagues in circuit, and was afterwards named *Isla de los Cedros*. * * * On the ninth of January they were obliged to run back for shelter under the *Isla de Cedros*, near the south part of which they anchored in thirty fathoms.

This side of the island was mountainous, and covered with burnt earth and ashes; * * * they did not see any appearance of vegetation. They landed, and by digging pits obtained water, in small quantity and of indifferent quality.

On the 14th, they anchored near the northern part of the island, which had a very different aspect from the opposite extremity, being well covered with trees, and inhabited.

The next day they anchored in thirty fathoms, near an Indian village on the same island, and Captain Ulloa went with two boats to search for water. * * *

[He had a conflict with the Indians, and his dog *Berecillo* was badly beaten.]

The canoes of these Indians were made of the trunks of the cedars, not hollowed, but merely fastened parallel and close to each other. Some of these trunks were twice the thickness of a man, and six yards in length. On the hills in the north part of the island, there were groves of these trees, for which reason the name *Isla de los Cedros* was given to the island."

VIZCAÏNO.

"At daybreak on the 25th of August, the Capitana and Fragata were close to the Island of Cerros which the Admiral thought was the mainland, and therefore he coasted to the westward; but it pleased our Lord, whom we serve, that for nine days they were unable to double a point which is part of the same island, and which he named *el Cabo de San Augustin*. Wearied by continual tacking the General determined to run close under the land, where he thought he would be sheltered from the northwest winds; and after he had anchored he sent for the Fragata, and in her the Cosmographer Geronymo Martin, to make a reconnaissance of the Island. And so he came to an anchor under the south part of the Island of Cerros [in South Bay], on the last day of August. * * * And the Fragata discovered the Almiranta this day and the fleet was reunited (p. 65)."

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this bay Vizcaino anchored on the 31st of August, 1602. Father Taraval, in 1734, went with the Indians from Point Eugenio to these islands on the same kind of catamaran or raft that is described by Ulloa. He named the group of islands embracing Natividad, Cerros and the Benitos, Los Dolores. Neither Ulloa, Vizcaino nor Cabrillo refer to the San Benito Islands.

The San Benito Islands form a group of barren and rocky islands sixteen miles west from Cerros Island. They cover an area of about six miles by two miles. The western or largest island of the group is about one and a quarter miles long and rises to six hundred and fifty feet elevation. There is anchorage in ten fathoms of water over sandy bottom, a little to the westward of its southeast point.

On the southwest part of the western islet a Japanese wreck was found by Captain Scammon in 1853. The keel and three or four strakes of the bottom remained. The nails, as well as the wood, proved it to be Japanese; and the indications were that it had been a long time in the water.

Bahia de San Xavier: by Father Taraval, 1734.

Sebastian Vizcaino Bay. This is the great gulf which has Cerros Island for its western limit, the north shore of the great range of the Sierra Pintada for its southern boundary, and the long, low, sandy shores of Scammon's Lagoon, Black Warrior Lagoon, &c., as far north as Playa Maria Bay, for its eastern shores.

In describing the landfall about Cerros Island this bay was referred to by Ferrelo as that "great gulf" [*una ensenada grande que no parece tierra*], extending to the northeastward from Point Eugenio, but to which neither he nor Vizcaino gave any name. The latter has given no limit to its eastern shores; he saw them receding, but did not trace them. The frigate reported that she could not see the limit of this "great arm of the sea which penetrated the land far to the eastward" (pp. 67, 68).

To form this gulf the trend of the coast changes at Point Eugenio from northwest and southeast on the ocean side to east on the gulf side. From that point the shore is high and bold for thirty-three miles to the east; then becomes low and sandy and sweeps twenty-eight miles to the northeast, past the mouth of Scammon's Lagoon to Black Warrior Lagoon; then twenty-four miles northward past Lagoon Head; and finally changes again to high bold shores running northwest for nearly one hundred miles.

Scammon's Lagoon is the deepest part of this gulf. It is known to extend fifteen miles to the eastward towards the base of the Santa Clara Mountains. The entrance is in latitude $27^{\circ} 54'$, and bears E. by N. $\frac{1}{2}$ N., 41 miles from Point Eugenio.

Near the entrance to this and the Black Warrior Lagoon, the shore-line is backed by very high sand dunes, and drift logs have been found among these dunes two miles inland (1854). In Scammon's Lagoon Spanish cedar trunks of trees with branches were found by Scammon. They had drifted from the Mexican coast and islands.

La Punta de San Eugenio, Vizcaino's chart.

Sierra Pintada, Torquemada.

Point Eugenio, latitude $27^{\circ} 50'$.

This headland is not described by Cabrillo or Vizcaino, although it is a very remarkable landfall, and the southern boundary of the great Gulf of Sebastian Vizcaino. It is the western extremity of the mountainous penin-

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sula, thirty-five miles long, and from three to twenty miles broad, which stretches from Table Head towards the northwest. Within seven miles of the Point the mountains are over 1,100 feet above the sea, and beyond the depression behind Port San Bartholomè they gradually rise to over 3,000 feet. The immediate shores are compact, bold, and forbidding. The prolongation of this peninsula is exhibited by the islands Natividad, Cerros, and San Benito.

El Puerto de Santa Clara, in 30° "scant," Ferrelo.

La Bahía de San Hipolito, Vizcaino, just under latitude 29° on his chart.

La Playa Maria Bay, latitude $25^{\circ} 55'$. The correction to Ferrelo is, $-1^{\circ} 05'$ "scant," and the bay lies almost northeast (true), 17 leagues from the north end of Cerros Island.

Playa Maria Bay is formed by an east-northeast sweep of the shore-line for three miles from Maria Point, and then east-southeast for six miles to Black Point. It is about two and a half miles deep and six miles broad between the two points.

The shores are low, sandy, and barren. At the northeast angle of the bay there is a cone-shaped hill 256 feet high. Immediately behind this hillock, and to the northeastward, the latest charts place a lagoon, but the traders assert (1885) that there is no lake and no water here.

There is good anchorage in the northern part of the bay in six or seven fathoms of water, over sandy bottom, where vessels may lie protected from the prevailing summer winds.

For two or three miles back of the north shore the land is low and flat, and then it rises quickly to the great coast barrier which reaches nearly three thousand feet elevation.

I judge this to be Torquemada's San Hipolito, and not Santa Rosalia Bay twenty-three miles to the southeast where there is good anchorage and no fresh water, because Vizcaino's Bay of San Cosme y San Damian, which lies four leagues to the northwest, has a fresh-water lake. We lack detailed and accurate knowledge of this region, but it is probable the reported lagoon may have fresh water in very wet seasons.

San Hipolito had already been examined by the Almiranta when separated from the Capitan and Fragata.

Ensenada de San Cosme y San Damian, Vizcaino.

Blanco Bay, in latitude $29^{\circ} 04'$.

Five miles from Maria Point the coast-line falls back one and a half miles and forms False Bay. Five leagues from Maria Point the shore recedes three miles to the northeastward, and forms Blanco Bay, which is a broad light open to the southwest. Good anchorage may be found here protected from the prevailing coast winds. The shores are high and rocky, and the coast mountains reach 2,500 feet elevation in ten miles. There is said to be no fresh water here.

La Punta del Mal Abrijo, $30\frac{1}{2}^{\circ}$, Ferrelo.

Point Canoas, in latitude $29^{\circ} 25'$; correction to Ferrelo, $-1^{\circ} 05'$. There is a possibility of its being Bluff Point, in latitude $29^{\circ} 34'$. Working back from San Geronimo Island, one of these points must be that which Cabrillo intended to designate as Mal Abrijo.

They departed from the island of Zedros on Thursday, the tenth day of the said month of August, to pursue their voyage, and proceeded along the shores of the mainland, sailing to the north. They went this day about ten leagues, and the following Friday dropped anchor in a port which they called Puerto de Santa Clara; it is a good port. They landed and found four Indians, who fled. This port is thirty degrees scant; it trends with the island of Zedros, northeast and southwest, and this coast runs from the port towards the ensenada, north-northwest and south-southeast. The coast is clean and soundable; the land is bare and is not rugged. It has plains and valleys. They were in this port until Sunday, the thirteenth of the said month, on account of foul winds.

Sunday, the thirteenth of the said month, they departed from this port and went sailing along the coast with light winds, anchoring each night; and the following Tuesday they let go anchor under a point which forms a cove, which is in thirty and a half degrees; (?) it affords very little shelter; they called it Punta del Mal Abrijo.

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"And they sailed from this island [of Cerros] on the ninth of September [1602] in search of the Isla de Cenizas. But first the Armada sailed towards the mainland, which trended to the northwest: and on the eleventh the squadron made the coast, which on their approach they found to be level and pleasant, and they saw a bay, to which (p. 69) they gave the name of San Hipolito, and the ships came to anchor in it. * * * They found the country very fertile, and of a delightful appearance, and a broad beaten road, leading from the coast to the inland parts. They also found a large hut, covered with palm leaves, and capable of holding conveniently fifty people.

(P. 69) "Four leagues farther to the northwest of the ensenada of San Hipolito is another which they named La Bahía de San Cosme, y San Damian, which the Almiranta had surveyed, while she was in search of the Capitana. It is very well sheltered from the northwest winds, and near the shore on the mainland there is a famous freshwater lake, and the country also is beautiful, fertile, and level."

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Point Canoas is a sharp perpendicular sand bluff 274 feet high, backed by hills from 700 to 1,200 elevation, and these again backed, at ten miles from the shore, with a range 2,100 feet above the sea. An anchorage partially protected from the coast winds is found under the lee of the point in good weather, in five to seven fathoms of water, over sandy bottom, about a mile from the shore.

From the point the shore-line runs ten miles eastward, of which the eastern six miles has a low shore with a broad plain behind it, according to the chart of 1873.

If he anchored deep in the bight between Point Canoas and Bluff Point, Cabrillo might have been abreast a deep arroyo laid down on the latest charts.

Vizcaino has an anchorage laid down just under 30° , but without name.

Cabo del Engaño, no latitude, Vizcaino. See page 184 for the Cabo del Engaño of Ulloa, Cabrillo, and Ferrelo.

Bluff Point; latitude $29^{\circ} 34'$.

A study of Vizcaino's narrative fully satisfies me that he applied this name to the headland which is fifteen or sixteen miles southeast of Point San Antonio.

Vizcaino had stormy weather here; his ships got separated; and he gives the particulars very clearly. He says the island of San Geronimo is about eight leagues to the west-northwest of Cape Engaño. It is just 25 miles.

Bluff Point is a bold sand point 100 feet high, and lies eighteen and three-quarter miles in a southeasterly direction from Point San Antonio. The sand bluffs on this part of the coast are backed by moderately high hills and in some portions by table-lands that rise from 1,000 to 2,000 feet in elevation. Of these mountains, Sombrero Peak, lying about two miles to the northeast of Bluff Point, is the most conspicuous, and reaches an elevation of 1,963 feet. The chart exhibits a "table land" ten miles in extent, to the northwest of Bluff Point, and about two thousand feet in height. It is only about five miles from the shore. This table-land is Las Mesas de San Cypriano of Vizcaino, in latitude $29^{\circ} 42'$.

La Bahía de San Francisco, Vizcaino. He gives no latitude. It is laid down upon his chart about three leagues to the southeast of the Isla de San Geronimo, and must be to the southeast of the Point Engaño or San Antonio, and to the northwest of Bluff Point. Abreast Las Mesas there is a great field of kelp stretching out to twenty-five fathoms of water, and it is probable that inside this kelp, under some slight indentation, they found anchorage, and gave it this name. A depth of twelve fathoms of water is found in this kelp four miles from the shore over a bottom of sand and rock. The slight indentation of the shore about five miles southeast of Point Engaño or San Antonio is in latitude $29^{\circ} 42'$, and under the northwest flank of Las Mesas. The latest charts do not give any anchorage at this place, nor has it any name.

Point San Antonio, latitude $29^{\circ} 45'$.

This is really the turning point of the coast-line, where it takes a new trend more to the northward. This is not the Cabo del Engaño of Cabrillo. It is not mentioned by Vizcaino in his narrative and his chart does not indicate it, but unusual prominence is given to the Island of

The Wednesday following they were sailing along the coast and had a heavy northwest wind, which was contrary, and they lay to at night without making any progress; and the following Thursday they held on with heavy rains and adverse winds and calms, so that they made no headway, and this following night they had much

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(P. 70.) "As the Armada proceeded along the coast they saw many large fires and smokes made by the Indians. But the northwest wind blew so violently, and the air was so cold, that the squadron was obliged to run close in with the land, and on the sixteenth they were under some lofty black mountains, on the top of which were large plains. These they called Las Mesas de San Cypriano. To the leeward or southeast of this Sierra or range of mountains (p. 71) were some white cliffs; and on them great numbers of Indians. * * * However, the next day the weather became fair, with a gentle breeze, by which they recovered what they had lost during the storm, and arrived off the Mesas, where the land forms a point of the Cape. Here they were again overtaken by a most violent gale from the northwest, with thick weather, * * * and again lost sight of each other (p. 72). The reason for the usual violence of the wind at this Cape, called del Engaño, is that the air is there contracted betwixt the cape and the island of Ceniza, which lies about eight leagues distant along the mainland to the west-northwest of Cape Engaño (p. 73), and this island is divided in the middle, forming two steep, lofty, round mountains of equal height. * * * The Capitana alone * * * even ventured to double Cape Engaño.

"And having to the northwest of Las Mesas de San Cypriano and the Cabo de el Engaño (p. 73) found a good harbor, the General ordered the two ships to stand in for it. Accordingly, in the evening of San Francisco, which was the 3rd of October, they entered the bay, which they called La Bahía de San Francisco (p. 74). In a rancharia they found onions and goat's horns. The country is level and fruitful, and by the dung and other indications seems to have a great plenty of cattle and deer.

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San Geronimo. And I think it highly probable that it is not the Engaño of Ulloa, who may have reached this latitude, and seeing Point Baja beyond and a trifle farther to the westward, gave up the ceaseless struggle he had made against the northwest winds.

It is a bluff point, with a peak 570 feet high, close to the shore, and about one and a half miles southeast from the point.

About three miles southeast of the point there is the mouth of a very remarkable gorge, which extends more than a mile inland. Between this gorge and the high peak the San Rosario River enters the sea.

Ferrelo was under the coast between Bluff Point and Point San Antonio.

La Isla de San Bernardo, $30\frac{1}{2}^{\circ}$, Ferrelo.

La Isla de San Gerónimo, Vizcaino.

San Gerónimo Island, latitude $29^{\circ} 48'$, correction to Ferrelo's latitude, $-42'$.

This islet lies eight leagues from Bluff Point, and thirteen leagues from Point Canoas. It is a league broad off Point San Antonio. Five miles to the south-southeast lies the dangerous Sacramento Reef. To the northward the trend of the shore is north-northwest, and to the southward southeast by east.

"It is a barren rock, covered in many places with a mixture of sand and guano; three-quarters of a mile long and less than a third of a mile broad; with rocky beaches and cliffs ten to twenty feet in height. Near the centre is a peak 172 feet high, and northward of this are two lower ones." * * * "There is anchorage to the eastward of the islet in about seven fathoms over sandy bottom, but an uncomfortable swell will usually be felt. A good landing place is found on a small shingle beach, in a slight indentation of the shore-line on the southeast side of the islet, at the base of the highest peak."

The present absence of wood may have resulted from fire spreading over the islet.

Torquemada is apparently confused about the Island of Cenizas and the Island of San Gerónimo, as if they were two distinct islands, and he even mentions the characteristics of each. The explanation is this: The Almiranta, after her separation from the fleet, searched for the Capitana by going as far back as Cerros Island, and then, not wishing to be again obstructed, made a long tack to seaward (p. 79), when she saw Guadalupe Island, which she named the Isla de Paxaros, and from this position she tacked inshore, making the landfall north of San Hilario Island (San Martin Island), which they saw and miscalled the Island of Cenizas (p. 89); thence she sailed in search of the Capitana, and when near the Bay of the Virgins she saw the Capitana and Fragata sailing out. This islet, as we shall soon see, is also double headed. Moreover, it is evident that the fleet had previous knowledge of some island described as Cenizas (cinders, lava), because on their passage to the northward they left Cerros Island to search for it. This knowledge they must have derived from the voyages of Ulloa and Cabrillo, and the description may possibly have referred to Natividad and Cerros Islands.

On Vizcaino's return voyage he passed the Bay of Todos Santos, and came in sight of the Island of San Hilario (San Martin Island) on the 3d of February (p. 122). And

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wind from the west-northwest, and lay to for rest; and the following Friday they proceeded with fair winds and they found themselves to windward of the Point of Mal Abrijo six leagues; and so they held on [*their course*] until the following Saturday, on the nineteenth of the said month,

when they dropped anchor off a small island which is half a league from the mainland. It may be ten leagues from the Point of Mal Abrijo; it is in thirty and half degrees; it has a good anchorage and good shelter; they called it San Bernardo; it extends one league north and south. The coast of the mainland runs north-northwest and south-southeast, and is a clean coast. The land within is of very good appearance and level, and there are good valleys and some trees, and the rest is bare. They did not find these days a sign of Indians.

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(P. 68.) "On the 9th of September, the squadron left the island of Cerros, to proceed to that of Cenizas. * * * The island of Ceniza which lies about eight leagues west-northwest from el Cabo de el Engaño [or Bluff Point] (p. 73). (P. 74.) The Fragata also reported that a little farther [beyond Bahía de San Francisco] they found a small island which they called San Geronymo; and the General ordered some of the sailors to go ashore and take a view of it. Here they saw prodigious numbers of birds, and much wood.

[On his chart it is named the Isla de San Geronimo.]

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"after passing the Bay of the Virgins on the 5th of this month, they made the island Cenizas, which, as we have already mentioned, had been surveyed by the *Almiranta*. Here the northwest winds increasing, the ships stood in for the Island of Cerros." This Island of Cenizas is certainly the San Geronimo of October 3d, 1602 (p. 74).

El Cabo del Engaño, 30°, Ulloa.

El Cabo del Engaño, 31°, Cabrillo.

La Punta del Engaño, 31°, Ferrelo.

Point Baja, in latitude 29° 56' (on a late chart, Punta Bajo). The correction to Cabrillo and Ferrelo is, —0° 64'.

It is eight and a half miles N. by W. $\frac{1}{2}$ W. from San Geronimo Island, and NW. by N. $\frac{1}{2}$ N., twelve and a half miles from Point San Antonio. Eastward of the point the shore retreats abruptly and forms Rosario Bay, in which safe anchorage may be had in five to six fathoms over sandy bottom, sheltered from the usual coast winds of summer. Punta Baja is a low sand cliff 30 feet high. Behind it the land rises to 300 and 500 feet in two miles, and to a mountain range of nearly 2,000 feet elevation within ten miles. The shores of Rosario Bay rise in sandy cliffs from 50 to 100 feet high. Off the point and the approaches great fields of kelp extend out into deep water

The coast from Punta Baja runs true north for twenty-four miles hence to Point San Quentin.

El Puerto de la Posesion, 31 $\frac{1}{2}$ °, Ferrelo.

La Bahía (de las Virgines), Vizcaino.

Port San Quentin in latitude 30° 24'; correction to Ferrelo, —1° 06'.

La Punta de las Virgines, Vizcaino's chart.

Cape San Quentin, latitude 30° 22'.

This cape is twenty-six and three-quarter miles NW. by N. from Punta Baja, and is the southern termination of a narrow peninsula eight miles in length, formed by a line of five remarkable hills lying north-northwest and south-southeast, and from 324 feet to 1,000 feet elevation. They were aptly named the Five Hummocks by Vancouver.

To the eastward of this peninsula there is low country, with great lagoons penetrating the land for several miles. The entrance to these lagoons is on the east side of the cape and two miles from its extremity. Inside of the entrance the port is small but affords perfectly secure anchorage and protection from all winds. No vessel drawing over twelve feet of water should attempt to enter the port without sending in a boat to sound the channel, which has two and a quarter fathoms of water at low tide.

The village of San Quentin lies five or six miles in a northeasterly direction from the anchorage, at the foot of a range of hills, and near some salt ponds.

Tebenkov, in his hydrographic description of this part of the coast, says: "The only place where fresh water fit to drink is to be found, is the well, excavated by the Russians in 1805, situated upon the spit running from the right shore towards the Cape San Quentin. The soil is of sand and clay, impregnated with salt, and in

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Sunday, the twentieth of the said month of August, they departed from the island of San Bernardo, and approached Punta del Engaño, which is seven leagues from this island, which point is in thirty-one degrees: the coast of the point towards the island trends north-northwest, south-southeast; on Punta del Engaño the land is not high, and appears in itself a good and level land; the ridges are bare: we saw no sign of Indians;

and so they continued sailing until the next Monday following the coast to the north and northeast; and about ten leagues from Punta del Engaño they discovered a good port, in which they anchored and took in water and wood: it is in thirty-one and a half degrees: it is a port suitable for making any kind of repairs for the ships, by placing the latter under the lee of the hills.

The following Tuesday the captain, Juan Rodriguez Cabrillo, went on shore and took possession of it in the name of His Majesty and of the most illustrious Señor Don Antonio de Mendoza, and gave it the name of Puerto de la Posesion. He found a lake which had three (3) [arms]; and they found some Indian fishermen, who immediately fled. They took one of them, and, giving him certain presents, they released him, and he went off. The land in the interior is high and rugged and has good valleys, and appears to be a good country, although it is bare. They were on shore here until Sunday, the twenty-seventh of said month, repairing the sails and obtaining a supply of water; and Thursday they saw certain smokes and went there with a boat and found about thirty fishermen, who were friendly, and they brought to the ship a boy and two Indian women, to whom they gave clothing and presents and let them go; from whom they could understand nothing by signs.

The following Friday, going to take in water, they found at the watering place certain Indians, who were friendly, and these showed them a pond of water and a salt pit which contained much, and they said by signs that they had not their habitation there, but in the interior, and that there were many people. This same day, in the evening, five Indians came to the shore, whom they brought to the ship, and they appeared intelligent Indians; and entering in the ship they took note of the Spaniards who were there and counted them, and made signs that they had seen other men like them, who had

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On the twentieth of August they found themselves at El Cabo del Engaño in thirty and one degrees.

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"They sailed to the northward above twenty leagues beyond this island [of Cerros], and were then in thirty degrees of north latitude."

He "was driven back" by "the northwest winds, which continued fixed." * * * "Ulloa made many attempts to get to the north, but was always forced to return for shelter to the Isla de Cedros. The Santa Agueda, the larger vessel, being a heavy sailer, and in want of repairs, Captain Ulloa determined to send her back to New Spain, and to endeavor with the Trinidad only to proceed on the proposed discovery. * * * On the 5th of April the two vessels parted, the Sta. Agueda sailing for New Spain. [Incidentally this vessel notes sea weed growing in fifteen fathoms of water, &c.]

"Ulloa, in the Trinidad, endeavored in vain to get farther north. The utmost he reached was to a point of land which he named Cabo del Engaño [the Cape of Deception]. The winds blowing unceasingly from the northwest, and his provisions being nearly expended, he bent his course for New Spain, where he arrived after an absence of a year, which was employed in this expedition."

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"A little beyond this island (p.74) [of San Geronimo] there seemed to be a large bay or inlet (p. 75) with a very impetuous current both at the ebb and flood tides: and the General supposing there might be a large river at the bottom of it, stood in with both ships, in order, if it afforded a good harbor, to wait some days there for the Almiranta, which if not lost, must pass near the mouth of it. The tender stood in first, sounding all the way; but at the mouth of the estero found a bar with only three fathoms of water at low tide, so that the Capitana did not think it advisable to venture in; but the tender sailed over the bar, and found a good harbor. * * * They found near the coast a great number of naked Indians, fishing in canoes made of thick and pliable flags which grow in fresh water * * * And who showed them several wells of very good water, * * * which were in a thick copse of willows and osiers intermixed. * * * The Indians also intimated by signs that up in the country there were great numbers of people clothed, who had beards, and that they also had fire-arms. * * *

"The Capitana and Fragata having staid in this bay the time proposed, the General gave orders for putting to sea, in order to look out for the Almiranta; accordingly she got under sail on the 24th of October; but as they were standing out of the bay they saw the Almiranta, which gave them the greatest joy, not having seen her for twenty-eight days, and had now given her over for lost" (p. 78).

[On his chart Vizcaino locates the Indian village; and makes two anchorages in the open bay.]

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places overgrown with a hard prickly plant, sheltering numbers of snakes: on the beach turtles and amphibians are constantly sunning themselves, as well as sea-elephants, sea-lions, and sometimes fur seals. There are very few birds."

From Port San Quentin the coast trends eastwardly for seven or eight miles and then turns to the southward, forming the open bay of San Quentin. The water is shoal for several miles off shore, and a long swell will usually be found rolling in, making it an uncomfortable anchorage. The north and east shore of the bay is a low sand beach, with the eastern hills rising to three hundred feet high a short distance inland, and these backed by a mountain range reaching from 1,500 to 4,000 feet.

In his narrative Vizcaino does not give any name to this "grande Bahía o Ensenada" (p. 74), but on page 80, when speaking of the Almiranta coming in sight, he refers to it as la Bahía de las Virgenes.

La Isla de San Augustin, Ferrelo. He gives no latitude and no distance sailed from Cape San Quentin.

La Isla de Cenizas, Vizcaino, by the Almiranta (p. 80).

La Isla de San Hilario, Vizcaino, by the Capitana (p. 80).

San Martin Island, latitude $30^{\circ} 29'$.

On the chart of Vizcaino it is laid down just outside Cape San Quentin, but without name. On his return to New Spain, in February, 1603, he reached the wells of the Bay of Todos Santos, &c., and continuing southward came in sight of the island of San Hilario.

It is in latitude $30^{\circ} 29'$, lies three miles off the coast, and is nearly ten miles northwest from the cape.

"The island is nearly circular in form, having its greatest diameter (one and a half miles) in an east and west direction. There are two remarkable peaks near the center. The western, which is 497 feet high, is an *extinct volcano* having a crater at its summit 350 feet in diameter and 40 feet deep. The island is quite barren, producing nothing but the prickly pear and a few stunted bushes, that grow among the loose masses of lava.

"There is good anchorage on the southeast side of the island, off a small lagoon which has communication with the sea at half tide; and anchorage may be found anywhere on the northeast side. The best place to anchor in is Hassler Cove, a snug little bight on the eastern side of the island, protected on all sides except the north. Anchor in seven to nine fathoms with the northern end of the natural breakwater that forms the east side of the cove, bearing S. $57\frac{1}{2}^{\circ}$ E. true. The island is surrounded by detached rocks and kelp; and great numbers of seal and sea fowl resort to it, particularly to the shores of the cove and the lagoon" (p. 8).

Torquemada says that the Island Cenizas is divided in the middle, making two high mountains. Ferrelo does not mention on which side of the island the drift timber was found, but evidently on the east, where he anchored. [See memorandum about the Spanish cedar found at Scammon's Lagoon.]

San Ramon Bay, latitude $30^{\circ} 49'$.

For twenty-one miles north of San Martin Island the coast-line runs nearly true north and south, and then forms the broad bight known as San Ramon Bay or Virgins Bay. Thence the shore of sand dunes runs northwest to the

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beards, and who brought dogs and cross-bows and swords. The Indians came smeared with a white bitumen on the thighs and body and arms, and they had the bitumen applied in the manner of slashes, so that they appeared like men in slashed doublets and hose; and they made signs that five days' journey thence were the Spaniards. And they made signs that there were many Indians, and that they had much maize and many parrots. They came covered with deer skins, and some had the deer skins dressed in the manner in which the Mexicans dress the skins which they carry in the cutters. This is an advanced and well-disposed people. They carry bows and arrows like those of New Spain, the arrows tipped with flints. The Captain gave them a letter, which they should carry to the Spaniards who they said were in the interior.

They departed from this Puerto de la Posesion Sunday, the twenty-seventh of the said month of August, and sailing on their course found an island two leagues from the mainland; it is uninhabited; there is a good port in it; they gave it the name of San Augustin; it measures two leagues in circumference; and so they held on along the coast with light winds, working to windward, until the following Wednesday, the thirtieth of said month, which gave them much wind from the northwest, which compelled them to put into the island of San Augustin. In this island they found some sign of people, and two cow-horns, and very large trees which the sea had cast there, which had more than sixty feet in length, and were of such thickness that two men could not embrace one of them; these appeared to be cypresses, and there were cedars. There was a large quantity of this wood; it contains nothing else. If a good port, it is not a valuable island; they were at this island until the following Sunday.

On Sunday, the third day of September, they departed from the said island of San Augustin, and proceeded, sailing on their course, and the following Monday they dropped anchor about seven leagues distant on the windward shore, on a coast running north and south; and then they

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When the Almiranta stood inshore from the island of Paxaros or Guadalupe she made the coast just north of the island of San Martin, and "they saw the island of Ceniza, that was left behind them (p. 80); that those of the Capitana had not seen; and prosecuting the search for the Capitana and the Fragata; and coming into the Bahía de las Virgines, they saw the Capitana and tender sailing out to sea: * * * and the General gave orders to continue their course to the first harbor they should find. Accordingly they passed near a small island close to the mainland, which they called San Hilario * * * (p. 80).

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bay under Cape Colnett, to neither of which does Ferrello refer, unless he means the bay under Cape Colnett when he says he anchored in the Ensenada which the island forms. The coast hence runs eighteen miles true north. There is a broad valley northward of Cape Colnett and then jagged mountains.

For fifteen miles southeast of Cape Colnett the kelp field is very dense in thirteen fathoms of water. On the other hand, he may have anchored in the broad indentation sixteen miles north (true) from Cape Colnett, off the mouth of the San Vicente River. Five miles off the shore soundings are had in thirteen fathoms of water. A few miles in the interior the mountains attain an elevation of 1,500 to 2,000 feet. At eight or ten miles inland is the old Mission of San Vicente.

Cabo de San Simon y Judas, Vizcaino's chart.

Cape Colnett, in latitude $30^{\circ} 59'$.

La Bahia de San Simon y Judas, Vizcaino (pp. 81, 84). Colnett Bay.

Cape Colnett is a remarkable headland. Its shore outline is semicircular, with perpendicular cliffs, from 150 to 350 feet high, of a very dark-colored rock which forms the upper horizontal layer or stratum, based on a light sandstone. The coast retains the same general appearance for ten miles to the northward of the cape. The eastern shore of the cape trends north and eastward for two and a half miles, forming Colnett Bay, where good anchorage may be found abreast a remarkable gorge in from six to nine fathoms of water over a sandy bottom. Ten to fifteen miles southward of the cape the coast sweeps around to the southward, forming what is called on the charts San Ramon Bay, as already mentioned. Ten miles behind Cape Colnett the mountains rise to 1,500 and 2,000 feet elevation. Neither Cabrillo nor Ferrello refers to this notable headland to the bay.

This is the first time that Ferrello mentions currents from the northward.

El Cabo de San Martin, $32\frac{1}{2}^{\circ}$, Ferrello.

Cape San Tomas, or Point Santo Tomas; latitude $31^{\circ} 33'$; correction to Ferrello, $-0^{\circ} 57'$.

Ferrello's description means a narrow promontory or sharp cape formed by a spur or ridge of the mountains projecting from the interior and ending in a high point.

Vizcaino makes no mention of this cape in his narrative; but he has the projecting point on his chart, and behind it the legend "mountainous."

"The point lies twelve miles S. 14° E. from Banda Point. The coast-line between them is escarpment-like, high and precipitous, with deep water close inshore, and numerous detached rocks. The point itself is low and rocky, rising abruptly to a height of 395 feet, where it unites with the coast mountains, which attain, at five or six miles inland, an elevation of 4,520 feet. * * * Half a mile to the southward of the point the coast makes a sharp turn to the eastward, forming a small bight, where good anchorage may be found one quarter of a mile from shore, in five to six fathoms of water, over sandy bottom, sheltered from the prevailing coast winds. A stream running through a deep cañada opens on the beach two miles southeast of the anchorage; a road leads from abreast this anchorage to the mouth of this stream, and thence to the old Mission of Santo Tomas, situated sixteen miles

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continued their course and were sailing with fair weather, on a coast running north and south, until Thursday, the seventh day of the said month of September, when they cast anchor in a cove which the land forms; and here ends the coast, which runs north and south and turns to the northwest. Behind this cove there is a large valley, and the land is level on the coast, and within are high ranges, and rough land good in appearance. All the coast is bold with a smooth bottom, as at half a league from land they were at anchor in ten fathoms; here there is much vegetation on the water.

On the Friday following, on the eighth of the said month, they held on with light winds, working to windward, and they found here contrary currents;

they dropped anchor under a point which forms a cape, and affords a good shelter from the west-northwest; they gave it the name of Cabo de San Martin; where the land terminates on both sides; and here also terminates a chain of high mountains that are beyond in the distance, and end by other smaller sierras. There is a large valley and many others; in appearance it is good land; it is in thirty-two and a half degrees, and is a clean port and soundable; it trends with the island of San Augustin, north and south.

Being at this Cabo de San Martin, they went on shore for water, and found a small lagoon with fresh water, where they procured water, and at this watering-place came forty Indians with their bows and arrows; they could not understand each other; they came naked; they brought roasted agaves to eat and fish; this is an advanced race; here they took possession; they were at this cape until the following Monday.

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(P. 80.) "And ranging along the coast [northward from Isla de San Hilario] they came in sight of a large bay, which the General ordered the tender to sound and survey; and they found it afforded a very good shelter against the northwest wind (p. 81), and there were many Indians, and going further north about two leagues they were overtaken by a strong gale at northwest which obliged them to put back into the said bay; and it being the anniversary of the glorious Apostles Saint Simon and San Jndas, October 28th, they gave that name to the bay. Here the General ordered the A'miranta to take in wood and water. * * * Near the shore they found a considerable number of Indians, who were alert and courageous" (p. 81). [They had a fight with the Indians, * * * and left the bay on the first of November.]

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inland, in a very fertile valley. A smaller stream opens directly opposite the anchorage."

In 1873, when passing this point, we made the following note which may explain Ferrele's peculiar expression, "As seen from the northwest, the point of Solitarios shows vertical dykes" (with illustrations).

The anchorage is called "Sheltered Ceve" in the Coast Survey Chart of 1874.

El Cabo de la Cruz; 33° Cabrillo.

El Cabo de Cruz; 33° Ferrele.

Grajero Point, in latitude $31^{\circ} 45'$.

Banda Point, on some charts.

Correction to Cabrillo and Ferrele, $-1^{\circ} 15'$.

Las Islas de Todos Santos.

La Ensenada de Todos los Santos; Vizcaino (p. 121).

Todos Santos Bay.

Ferrele does not describe this great bay as a whole, but in embarrassing details; and on account of adverse winds his estimates of distances are very erroneous. He barely mentions passing a small island, which must be Todos Santos Island.

Grajero Point is a very bold, narrow head, projecting five miles into the sea to the west-northwestward, and increases in width from a quarter of a mile to two miles. Near the extreme point the height is 1,273 feet; and in three and a half miles from the coast-line, between this cape and Point Santo Tomas the mountains rise to 3,563 feet. The sides of the cape are precipitous and slope both ways (N. NE. and S. SW.).

The Todos Santos Islands are on the prolongation of the cape and distant three miles therefrom. Their combined length is two miles, and the width half a mile. The southeast islet rises 374 feet, and the northwest islet about 60 feet. They lie about the middle of the entrance to the bay, which is nine miles broad by as many deep. In the southeast part of the bay there is a broad sand beach behind which lies a lagoon receiving the waters of two small streams. Vizcaino indicates this low shore by a discontinued line. In the northeast part of the bay is the Ensenada anchorage, and under the northwest cape, called San Miguel, is the anchorage abreast the Arroyo Carmen. Very high mountains surround the bay. A favorable wind induced Vizcaino to postpone the survey of the bay until his return voyage, when he was unable to carry out his plan.

El Puerto de San Mateo, $33\frac{1}{2}^{\circ}$, Ferrele.

This "port" may be the present Ensenada anchorage in the northeast part of Todos Santos Bay, where his description suits very well; he very probably passed outside the Todos Santos Islets to get there. It is well sheltered from all winds but the southwest, and he would have to get water by digging or from water-peels filled by the early rains. It is only nine miles in a direct line from his Cabo de Cruz. It is in latitude $31^{\circ} 51'$, and the correction to Ferrele's latitude would be, $-1^{\circ} 29'$. If he passed outside the islets it is a possibility that he was under Cape San Miguel or Sausal Point, which forms the northwestern limit of Todos Santos Bay, and lies six and a half miles from the Ensenada anchorage. The cliffs are bold and high, and he could have gotten water from the Arroyo Carmen, but he would have been exposed to the heavy swell from seaward.

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Monday, on the eleventh of said month, they departed from Cabo de San Martin and sailed about four leagues on a coast running from north-northeast to south-southwest, ⁽⁵⁾ and thence the coast turns to the northwest. The land is lofty and bare; and the day following they sailed also with adverse winds about four leagues on a coast running from northwest to southeast. On the land there are high and broken sierras; and the following Thursday they dropped anchor at about three leagues in advance at a point which projects sharply into the sea; they called it Cabo de Cruz; it is in thirty-three degrees; there is no water nor wood, nor did they find any signs of Indians.

Having departed from Cabo de Cruz, they found themselves the following Saturday two leagues from Cabo de Cruz on account of the head winds on a coast from north-west to south-southeast, and under the shore they saw Indians in some very small canoes. The land is very high and bare and dry. All the land from the extremity of California to this place is sandy like the sea-beach. Here begins land of another character, as it is a country of beautiful vegetation and better appearance, like orchards.

Sunday, the seventeenth of the said month, they set sail to pursue their voyage, and about six leagues from Cabo de Cruz they found a good port well enclosed, and to arrive there they passed by a small island which is near the mainland. In this port they obtained water, and there are groves resembling silk cotton trees [ceybas], except that it is hard wood. They found thick and tall trees which the sea throws ashore. This port was called San Mateo. It is a good country in appearance. There are large cabins, and the herbage like that of Spain, and the land is high and rugged. They saw herds of animals like flocks of sheep, which went together by the hundred or more, which resembled in appearance and movement Peruvian sheep, and with long wool. They have small horns of a span in length as thick as the thumb, and the tail is broad and round and of the length of a palm. It is in thirty-three and one-third degrees. They took pos-

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On the fourteenth of September they came to anchor at a cape, which they called de la Cruz; land precipitous, high, and barren, which is in thirty and three degrees.

"The squadron having left the bay of St. Simon and St. Jude (p. 84), and continuing their voyage against the wind, and against the currents, they came very near to a great bay nearly surrounded by lofty mountains; and by the breaking of the sea near the harbor, it appeared that it was an arm of the sea or the mouth of a river. In the west part of the bay, about two leagues distant, there are two islands which they call Todos Santos. The tender being ordered in, the Almiranta followed her; but the Capitana, as night was coming on, stood off to sea; and the others, that they might not be separated from her, also put back. This happened on the 5th of November, and the next morning it was agreed to stand again into the bay and take a plainer view of it, but a favorable breeze springing up and the General thinking it most advisable to take advantage of it, and defer the survey to their return, they continued their course."

[About the end of January, 1603, Vizcaino was returning to La Paz for succor (p. 121); many of his crew being dead from scurvy and only three or four remaining fit to navigate his ship. The winds were light and he made but slow progress, but he carried the ships to the springs or wells which he had previously found in the deepest part of the Ensenada de Todos los Santos.

Under these circumstances his description is very meagre.]

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Neither the Coast Pilot nor the chart notes any anchorage, although it is reported that schooners have recently anchored here.

Cape San Miguel lies nine miles true north from the Southern Cape of Todos Santos Bay, and is in latitude $31^{\circ} 33\frac{1}{2}'$. This would give a correction to Ferrelo of $-1^{\circ} 30'$. He was in the region of the antelope, which were still running in large herds around San Diego Bay in 1851.

There is a remarkable valley opening on the coast in $32^{\circ} 06'$. It exhibits several marked terraces reaching back and up to a great height above the sea.

Cabrillo must have been near Descanso Bay in latitude $32^{\circ} 16'$, but the distance is only twelve leagues.

Las Islas Desiertas, 34° , Ferrelo.

Las Islas de los Coronados, Vizcaino (page 85).

Las Islas de San Martin, chart of Vizcaino.

Los Coronados Islands, in latitude $32^{\circ} 25'$. Correction to Ferrelo's latitude, $-1^{\circ} 35'$.

This is a group of four or five rocky and desolate islets. There are two main islets and three smaller masses of rocks. The largest islet is about seven miles from the coast-line, and the others stretch to the northwest for four or five miles. The largest is two miles long by half a mile wide; it is wedge-shaped, and at its highest peak attains an elevation of 674 feet. On the west and north-west sides lie two barren rocks fifty feet high. The north-western islet is a barren rock seven-tenths of a mile in extent and 350 feet high. A fair anchorage may be had in eight fathoms of water over sandy bottom, on the east side of the islet, northward of its middle.

Kohl says: "There is little doubt that the 'Dolores' mentioned by Taraval were the Coronados Islands"! We have already shown that Taraval landed on Natividad and Cerros Islands.

La Mesa de la Cena, Vizcaino's chart.

La Mesa Redonda of the native Californians.

Table Mountain, in latitude $32^{\circ} 20' 05''$, longitude $116^{\circ} 54' 17''$.

This is a notable mountain, especially as a landfall to the navigator; and Vancouver gives a characteristic view of it. It lies about seven miles inside the shore of Descanso Bay. As seen from every side it is flat topped, and the top nearly circular. The surface of this table is covered with singular fragments of rock. The diameter of the flat top is 1,600 yards, and its height above the sea is 2,244 feet; so that it is visible at fifty miles from seaward. A few miles to the southeast of this mountain there is another marked mountain of three sharp peaks rising 400 to 500 feet higher than Table Mountain. It seems curious that Cabrillo did not mention these mountains.

THE COAST OF ALTA CALIFORNIA.

El Puerto de San Miguel, $34\frac{1}{2}^{\circ}$, Ferrelo.

El Puerto de San Diego, Vizcaino.

El Puerto Bueno de San Diego, Vizcaino's chart.

San Diego Bay. The light-house near the extremity of Point Loma is in latitude $32^{\circ} 40'$. Correction to Ferrelo, $-1^{\circ} 40'$.

El Buen Puerto, Vizcaino.

False Bay.

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session of it. They were in this port until the following Saturday.

Saturday, the twenty-third of the said month, they departed from the said port of San Mateo and sailed along the coast until the following Monday, in which time they made about eighteen leagues. They saw very beautiful valleys and groves, and a country flat and rough, and they did not see Indians.

On the Tuesday and Wednesday following they sailed along the coast about eight leagues and passed by some three uninhabited islands. One of them is larger than the others, and extends two entire leagues, and forms a shelter from the west winds. They are three leagues from the mainland; they are in thirty-four degrees. This day they saw on the land great signal smokes. It is a good land in appearance, and there are great valleys, and in the interior there are high sierras. They called them Las Islas Desiertas.

The Thursday following they proceeded about six leagues along a coast running north-northwest and discovered a port enclosed and very good, to which they gave the name of San Miguel. It is in thirty-four and one-third degrees; and after anchoring in it they went on shore, which had people, three of whom remained and all the others fled. To these they gave some presents; and they said by signs that in the interior had passed

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"After sailing a few leagues, the wind again shifted to the northwest, but they kept coasting along the shore, and were amused by the smokes and fires made by the Indians all along the Strand as an invitation to the ships to send their people ashore. The country appeared very beautiful, and level, and pleasant. At the distance of six leagues from the mainland, they fell in with four islands, to which they gave the name of Los Coronados (p. 84); the two smaller appear like sugar-loaves, the other two somewhat larger."

[On his chart he names them Las Islas de San Martin, and has a anchorage on the north side of the largest.]

[Vizcaino's chart places the "Mesa de la Cena" near the coast-line to the southward of the Coronados. It furnishes the only attempt at hachuring on Burney's copy of his chart and therefore must have impressed the cosmographer.]

"To the north of these islands [Los Coronados] (p. 85), on the mainland is a famous harbor which was named the Puerto de San Diego, which the squadron entered at seven in the evening of San Martin on the tenth of November. The day following the General ordered several persons to survey a hill (monte) [La Loma] which afforded protection to this port from northwest winds. * * * On this hill they found tall and straight oaks, and other

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La Isla de Arena.

The Peninsula. "The Island" is the low sandy, chaparral-covered peninsula, forming the west shore of the bay and crowding so close to Ballast Point under Punta de la Loma as to form the deep narrow channel between the bay and the sea. It is not over six feet above the level of the sea, and in 1850 was locally known as "The Island," and now known as the "Peninsula."

Next to that of San Francisco, no harbor on the Pacific coast of the United States approaches in excellence the Bay of San Diego. It is readily distinguished by the notable landmark of Point Loma, in latitude $32^{\circ} 39'$, is easily approached on account of the absence of outlying dangers, and a depth of twenty-two feet of water can be carried over the bar. This bar has not changed in depth or position since the time of Vancouver.

Vessels approaching San Diego Bay make the ridge of Point Loma as a long flat-topped island; when about twenty-five miles distant. This appearance is occasioned by the bay to the southwest, by the low land to the northeast, and by the Puerto Falso at the north.

The bay is a long curving body of water about twelve miles in length, and from one-half to ten miles in width. For the first six or seven miles from the entrance there is a fine broad channel, carrying four to eight fathoms of water. The southern end of the bay is occupied by very extensive flats, through which a channel with twenty to twelve feet of water is found. Between the bay and the ocean there is a narrow strip of sand dunes and very low ground.

When inside the entrance of the bay, a vessel is sheltered from every wind, and the holding ground is good.

When we first visited the bay, in 1851, there was no sign of the trees mentioned by Vizcaino, nor did the Spanish population have any traditions about them. His description of "el monte" applies with great directness to La Loma.

Kohl blunders very badly about Taraval's "Bahia de San Xavier," and says that "probably it is the small bay now known as San Diego Harbor." We have shown that it was the great gulf of Sebastian Vizcaino lying eastward of Cerros Island.

Ensenada (de Santa Cathalina), Vizcaino.

San Pedro Bay, latitude $33^{\circ} 43'$.

To Vizcaino this great bight embraced the low country north and east of San Pedro Bay, which land he did not see. On his chart he places Santa Catalina Island broad off the Bay of San Pedro.

Kohl thinks that San Pedro Bay is the Baia de Fumos of Cabrillo, but we will show that it is Santa Monica Bay.

La Isla de San Salvador, Ferrelo.

La Isla de Santa Cathalina, Vizcaino.

Santa Catalina Island, in latitude $33^{\circ} 26\frac{1}{2}'$, at Isthmus Cove.

The island is eighteen miles from the mainland at San Pedro and twenty-three and a half miles from Point Lasuen.

La Isla de la Vittoria, Ferrelo.

San Clemente Island; the latitude of the southeast head is $32^{\circ} 49'$.

These islands were named after the ships; the former

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people like the Spaniards. They manifested much fear. This same day at night they went on shore from the ships to fish with a net, and it appears that there were here some Indians, and they began to discharge arrows and wounded three men.

The next day, in the morning, they entered farther within the harbor, which is large, with the boat, and they brought away two boys, who understood nothing by signs, and they gave them both shirts, and immediately sent them away.

And the following day, in the morning, there came to the ship three full-grown Indians, and by signs they said that there were travelling in the interior men like us, with beards, and clothed and armed like those of the ships, and they made signs that they carried cross-bow and swords, and made gestures with the right arm, as if they were throwing lances, and went running in a posture as if riding on horseback, and made signs that they killed many of the native Indians, and that for this they were afraid. This people are well-disposed and advanced; they go covered with the skins of animals. Being in this port, there passed a very great tempest, but on account of the harbor being good, they suffered nothing. It was a violent storm from the west-southwest and south-southwest. This is the first storm which they have experienced. They were in this port until the following Tuesday. Here Christians were called Guacamal.

The following Tuesday, on the third day of the month of October, they departed from this port of San Miguel, and Wednesday and Thursday and Friday they proceeded on their course, about eighteen leagues along the coast, on which they saw many valleys and much level ground, and many large smokes, and, in the interior, mountains.

They were at dusk near some islands, which are about seven leagues from the mainland, and because the wind had died out they could not reach them this night.

Saturday, the seventh day of the month of October, they arrived at the islands at daybreak, which they named San Salvador and La Vittoria, and they anchored off one of them, and they went with the boat on shore to see if people were there, and as the boat approached, a great number of Indians issued from among the bushes and grass, yelling and dancing and making signs that they should come ashore; and they saw that the women were

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trees; some shrubs resembling rosemary, and a great variety of fragrant and wholesome plants. The top of this hill commanded a view of the whole harbor which appeared very great and very commodious, and well sheltered from every wind (p. 86). The hill borders this harbor on the northwest and is about three leagues in length, and a half a league in breadth. And to the northwest of this hill is another good harbor. * * * They obtained there water from a sandy beach or a little island of sand, where they dug deep trenches, in which, during the flood the water was fresh and good; but on the ebb salt. * * * Most of the Indians painted or besmeared with black and white; and their heads were loaded with feathers. * * * They signified by signs that a certain people up the country had beards and were clothed like the Spaniards (p. 83); and by their dress, complexions, and customs seemed to be of the same country with the visitors. * * *

"In this harbor there is a great variety of fish, as oysters, mussels, lobsters, soles, &c., and the country abounded in game. * * * They were highly delighted with the mildness of the climate, and the goodness of the soil. * * *

"Everything being completed, * * * they left this place on the twentieth of November (p. 89).

"They had no sooner left San Diego, than the northwest wind commenced to blow (p. 89). Little by little, however, the ships advanced, and came in sight of a great gulf, where the neighboring country presented a very pleasant appearance. And as they proceeded they saw also the smoke of large fires which the Indians had kindled, to induce the ships to put in there. But on approaching the coast, found no shelter from the northwest wind; they therefore continued their course, and a few leagues further discovered (p. 90) a great island about twelve leagues from the mainland, and for the day of its discovery, they called it the Isla de Santa Cathalina. On the 28th of November the ships came close in with it, and from thence had sight of a much larger one lying to the southwest of Santa Cathalina. They, however, thought proper not to survey it till their return (p. 90). [Then follows a long description of the inhabitants, &c.]

(P. 94) "This island, like most of those adjacent, is very populous. * * * This island has several good harbors, abundance of fine fish, especially large and good sar-

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after the flag-ship, the Capitana, and the latter after the tender, the Almiranta.

These two islands are large, very high, and visible far out at sea. I have seen the former from the ridge of Point Loma.

Santa Catalina Island is eighteen miles long, with an extreme breadth of seven miles, and an average breadth of four miles. Its general direction is W. by N. $\frac{1}{4}$ N., magnetic. It rises to 2,110 feet above the sea, and is visible at a distance of fifty-three miles. It is very rugged, covered largely with dense chaparral, and is nearly divided into two islands towards the western end.

San Clemente Island is also eighteen miles long, and not over three and a half miles broad; it rises to 1,964 feet elevation, and is visible at a distance of fifty miles. It lies nearly parallel with Catalina, and directly south; its north point is only nineteen miles from the nearest part of Catalina.

Neither island has been inhabited by Indians since the country has been settled by Americans, and the signs of former populations are much less than on Santa Rosa and San Miguel. For further descriptions see Davidson's Coast Pilot.

Ferrelo evidently anchored off the north side of Santa Catalina Island.

Vizcaino does not mention San Clemente by name, but describes it as a larger island lying to the southwest, and to be surveyed on the return of the expedition from the north. He has not placed it on his chart.

On his plan of Catalina Island he clearly indicates the locality of the great depression; and a small circle denotes the position of the so-called Temple to the Sun, &c.

La Bahía de los Fumos, 35°, Ferrelo.

La Bahía de las Fuegos, Ferrelo.

La Bahía Ona, a corruption of La Ballena, a rancho bordering this bay.

Santa Monica Bay, named from the Sierra Santa Monica. Latitude of Point Dume on the northern shore of the bay 34° 06'; correction to Ferrelo, -1° 00'.

I feel sure that he made the land of this bay near Point Dume, where there is shelter, and where there were large rancherias of the Indians to a very late date.

Vizcaino does not mention this bay, but it is plainly indicated on his chart, as well as the cape formed by San Pedro Hill, 1,475 feet elevation.

Ferrelo does not mention San Pedro Bay, but Vizcaino calls it an Ensenada, embracing Santa Catalina Island; and his chart gives it great breadth, and notes the rocky islet called Deadman's Island. This islet is the El Morro of the later Spanish charts.

This part of the coast is sharply backed on the north by the almost inaccessible mountains of the Sierra Santa Monica. To this day they may be said to have no trails through them.

Laguna Mugu, latitude 34° 05'.

This is a moderately large estero under the northwesterly coast termination of the Sierra Santa Monica, where it crowds over the broad low plains of the Santa Clara Valley. There is a good anchorage off the mouth of the estero. See 'Davidson's Coast Pilot of California, Oregon, and Washington.'

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running away, and from the boats they made signs that they should have no fear, and immediately they assumed confidence and laid on the ground their bows and arrows, and they launched a good canoe in the water, which held eight or ten Indians, and they came to the ships. They gave them beads and little presents, with which they were delighted, and they presently went away. The Spaniards afterwards went ashore and were very secure, they and the Indian women and all. Here an old Indian made signs to them that on the mainland men were journeying, clothed and with beards like the Spaniards. They were in this island only until noon.

The following Sunday, on the eighth of the said month, they came near the mainland in a great bay which they named la Bahía de los Fumos; on account of the numerous smokes which they saw around it. Here they held intercourse with some Indians, whom they took in a canoe, who made signs that towards the north were Spaniards like them. This bay is in thirty-five degrees, and is a good harbor, and the country is good, with many valleys and plains and trees.

The following Monday, on the ninth day of the said month of October, they departed from la Bahía de los Fuegos, and proceeded this day about six leagues, and anchored at a large inlet,

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dines. * * * The sea wolves serve the Indians both for food and clothing. * * * After taking a survey of several parts of this Island, the squadron left it on the third of December, 1602.

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It is fifteen miles west of Point Dume. From Mugu to San Buenaventura the coast-line is nineteen miles, and the last eight miles runs northwest. This is the only coast-line in this section with this direction and with such a well-marked valley.

Los Pueblos de las Canoas, $35\frac{1}{2}^{\circ}$, Cabrillo.

El Pueblo de las Canoas, $35\frac{1}{2}^{\circ}$, Ferrelo. ("Which is called Xucu.") Ferrelo, page 84.

San Buenaventura, in latitude $34^{\circ} 17'$; correction to Ferrelo, $-1^{\circ} 03'$.

San Buenaventura lies under the seaward face of the mountains, at the extreme western edge of the broad, low, flat valley of Santa Clara. The Santa Clara River empties into the ocean four or five miles eastwardly of San Buenaventura, while on the immediate west empties the San Buenaventura River, after coming through a smaller and narrow valley among the mountains. The wood, fresh water, open bay, plains on one side and river on the other would make this a favorable location for a large village. Ferrelo's description is very satisfactory, and it will not suit any other locality in this immediate region.

Vizcaino sailed past this part of the coast with favorable winds, and did not anchor anywhere in the archipelago, except at Santa Catalina; but he notes the projecting shore-line at Point Hueneme, and to the west of it lays down on his chart a large "fresh-water river," which may be either the Santa Clara or the San Buenaventura, more likely the former. He held short communication with the chief of the Indians.

The founding of the Mission of San Buenaventura would indicate that large numbers of Indians were in the vicinity, and that the place had superior inducements for sustaining the establishment and recruiting preselytes.

The name Taquimine seems to be the original of the present Hueneme, and is locally referred to the name of a celebrated chief.

Mugu (Point Mugu) is quite likely the original name of one of their villages, although it may be from the Spanish *muga*, which really designates the character of the point.

We may here premise that hence to Point Concepcion Ferrelo gives the distance at thirty leagues, whereas it is only between twenty and twenty-one leagues, and we may reasonably be guided in the adoption of this scale through the Santa Barbara Channel, because he had pleasant weather and light variable winds throughout.

But pending that examination along the main shore I refer to the other two islands not seen by Cabrillo and Ferrelo.

La Isla de Santa Barbara, Vizcaino's chart.

Santa Barbara Island.

He has not mentioned it individually in his narrative. It is laid down as a small island in a relatively correct position. His name is retained. This island is in latitude $33^{\circ} 30'$, and rises 547 feet above the sea; it can be seen a distance of twenty-seven miles.

La Isla de San Nicolas, Vizcaino.

San Nicolas Island.

The southeast point is in latitude $33^{\circ} 16'$. It is not

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and they passed on thence the following day, Tuesday, and proceeded about eight leagues on a coast northwest and southeast, and they saw on the land a village of Indians near the sea, and the houses large, in the manner of those of New Spain; and they anchored in front of a very large valley on the coast. Here came to the ships many very good canoes, which held in each one twelve or thirteen Indians, and they gave them information of Christians who were journeying in the interior. The coast is from northwest to southeast. Here they gave them some presents, with which they were very much pleased.

They made signs that in seven days they could go where the Spaniards were travelling, and Juan Rodriguez was determined to send two Spaniards to the interior. They also made signs that there was a great river. With these Indians they sent a letter at a venture to the Christians. They gave the name to this village of el Pueblo de las Canoas. They go covered with some skins of animals; they are fishermen, and eat the fish raw; they also eat agaves. This village is in thirty-five and one-third degrees. The country within is a very beautiful valley, and they made signs that there was in that valley much maize and much food. There appear within this valley some mountains very high, and the land is very rugged. They call Christians Taquimine. Here they took possession: here they remained until Friday, the thirteenth of the said month.

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Tuesday, on the tenth of October, they discovered some villages of peaceable Indians, with whom they traded, which they named los Pueblos de las Canoas, because they had a great many canoes, and they are in thirty and five degrees and a third;

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mentioned in his narrative, but is on his chart, where it is placed close alongside and to the westward of Santa Barbara Island, and even smaller. He has either committed the error that Tebenkoff has done in his atlas (1848) of laying down Santa Barbara as two islets, or he saw only the highest point of San Nicolas Island, which is 890 feet above the sea and visible at a distance of thirty-four miles. Supposing that he sailed from the north harbor of Santa Catalina Island to the throat of the Santa Barbara Channel (reckoned as lying between Anacapa Island and Point Hueneme), he passed not nearer than fifteen miles to Santa Barbara Island and forty-two miles to San Nicolas Island. The former is visible in clear weather with a sharp lookout; the latter is not visible unless by extraordinary refraction.

As Vizcaino gives a graphic description of his passage through the Santa Barbara Channel, we interrupt Ferrelo's narrative to condense it.

The Islands of the Santa Barbara Channel.

To the broad passage between the mainland from Point Hueneme to Point Concepcion and the islands from Anacapa to San Miguel, Vizcaino (p. 95) gives the name El Canal de Santa Barbara. He is the first to call attention to the parallelism of these islands with the continental shore.

This channel is sixty-five miles long nearly east and west, and ranges from eleven to twenty-six miles in breadth. His statement that there are six islands in this channel must include the islands which he named San Nicolas and Santa Barbara, and which are laid down by him half way between Santa Catalina Island and Anacapa. His chart gives a very fair representation of the archipelago and its relation to the mainland. This archipelago is now known as the Santa Barbara Islands, and embraces all of them from San Miguel to San Nicolas and San Clemente.

Cabrillo's vessels left Buenaventura and reached the "Rincon," latitude $34^{\circ} 22'$, four leagues west of San Buenaventura. This coast is bordered by high and steep mountains, the water is alkali, and it was doubtless but sparsely inhabited.

Friday, the thirteenth of the said month of October, they departed from the Pueblo de las Canoas on their voyage, and proceeded this day six or seven leagues, and passed two large islands which extend four leagues each one, and are four leagues from the continent. They are uninhabited, because there is no water on them; and they have good ports.

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(Pp. 94, 95.) Beyond Santa Catalina there is a regular row of islands from four to six leagues distant from each other. Some are large and others small, but all are populous, and the inhabitants trade with each other and with those of the continent. These islands take up from the first one to the last one, nearly a distance of one hundred leagues; and they follow each in the same direction as the mainland; and their number, largeness, and proximity often occasion the Philippine ships in their return to New Spain, to mistake them for the Continent; and thus to keep at a distance from them. They are, however, very populous, and have a safe passage betwixt them and the mainland, in some parts twelve, in others ten, and the narrowest eight leagues broad, called *el Canal de Santa Barbara*, and which lies East and West. The ships being arrived near the continent, at the mouth of this Canal, a boat came off with four paddles, bringing an Indian, who was the King of the Coast on the mainland. * * * Within an hour after the Indian was gone, a south-east wind sprang up, and was the only gale from that quarter they had felt during their voyage. And it being directly fair, the General thought proper to defer his visit to the Indian King till his return. * * * Accordingly they set all their sails, and as the gale lasted from seven in the evening of the 3rd of December till eight o'clock the day following (p. 98), the ships had nearly reached the last cluster of islands in the Canal, which are six in number, and distant two leagues from each other. The Canal is about twenty-four leagues in length, and the coast of the continent very pleasantly interspersed with woods, and has a great number of Indian Villages. In the night following the day of Santa Barbara the wind shifted to the northwest, which caused great consternation, it being dark, and the ships among islands and in the channel where the sea ran very high. This gale lasted all night and the following two days; on the third it abated; but they had lost sight of their consort among the islands on the day of San Nicolas. With fair weather the ships sailed out of this archipelago. * * *

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La Isla de gente Barbada, Vizcaino's chart.

Anacapa Island, latitude $34^{\circ} 01'$.

This island is distinctly visible from San Buenaventura, and is distant seventeen miles, although not nearly so large as mentioned by Ferrelo. It is four and a half miles long but very narrow, and presents its broad side to the northern shore west of San Buenaventura. In approaching it from the east, from under Point Dume, it is seen projected on the Island of Santa Cruz, and cannot be distinguished from it if the atmosphere is very clear. In this case the whole mass of the two islands, and even a part of Santa Rosa to the south, will show as one very large island, and when seen from San Buenaventura it might be supposed that only the end was visible towards the observer, and thus a stranger would be misled in his estimate of the size, &c.

The island is merely a great ridge of coarse sandstone rock reaching 960 feet elevation, barren, desolate, without water and without a harbor. When Vizcaino was approaching it he must have supposed it was a great island, and he even lays it down on his chart with its greater length to the southwest.

The second island seen by Cabrillo is La Isla de San Ambrosio of Vizcaino's chart, with a rocky islet laid down off its eastern point. This is the Island of Santa Cruz, of which the eastern point is in latitude $34^{\circ} 02'$.

Ferrelo has evidently confused the characteristics of the two islands, because he visited neither, saw them under changing aspects, and got his information from the Indians by signs.

The name Anacapa is a corruption of Vancouver's Indian name of the island. In his text he names it Enneapah, but the engraver has spelled it Enecapah on the chart, and subsequent compilers have endeavored to give it a Spanish form. The Indian deep guttural pronunciation is En-ni-ah-pagh'.

The vessels left the Rincon where the low lands of the Carpinteria begin and stretch westwardly for ten miles to Santa Barbara Point. He anchored off the Carpinteria, latitude $34^{\circ} 24'$, about a mile west of Sand Point. Ferrelo's description is satisfactory.

From the Carpinteria the vessels continued past Santa Barbara (at six and a half miles from his starting point) with its protecting hill, La Vigia, and the rocky cliffs of the mesa for five miles to the westward of the anchorage; past the low shore and treeless mesa cut by the lagoons behind Point Goleta; and anchored about four or five miles west of the latter place, probably inside the great field of kelp skirting the coast; latitude $34^{\circ} 25'$.

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The coast of the mainland runs west-northwest; the country is level, with many cabins and trees; and the following Saturday they continued on their course, and proceeded two leagues, no more, and they anchored opposite a valley very beautiful and very populous, the land being level with many trees. Here came canoes with fish to barter; they remained great friends.

And the Sunday following, the fifteenth day of the said month, they held on their voyage along the coast about ten leagues, and there were always many canoes, for all this coast is very populous, and many Indians were continually coming aboard the ships, and they pointed out to us the villages and named them by their names, which are Xucu, Bis, Sopoho, Alloc, Xahaagna, Xotococ, Potoluc, Naebuc, Quelqueme, Misinagua, ⁽⁶⁾ Misesopano, Elquis, Coloc, Mugu, Xagua, Anaebuc, Partocae, Susuquey, Quannu, Gua, Asimu, Aguin, Casalic, Tucumnu, Inepupu. All these villages extend from the first, Pueblo de las Canoas, which is called Xucu, as far as this place; they are in a very good country, with very good plains and many trees and cabins; they go clothed with skins; they said that inland there were many towns, and much maize at three days' distance; they call the maize Oep; and also that there were many cows. They call the cows Cae; they also gave us notice of some people with beards, and

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La Isla de San Lucas, Ferrelo.

Las Islas de San Lucas, Ferrelo. (See pp. 205, 226, 228.)

They supposed that Santa Cruz Island and Santa Rosa Island were one, because they saw them overlapped. They afterwards discovered them to be two islands, referring in January, 1543, to Santa Cruz Island as "the other islands of San Lucas," which the Indians called Limu or Limuu, and to which the discoverers gave the name of San Salvador, forgetting that Santa Catalina had already received that name from them. It is the present Santa Cruz Island. The highest peak is Mt. Diablo (Devil's Peak), which is 2,410 feet above the sea, and is visible at a distance of fifty-five miles. The six villages which Ferrelo here names have not a single correspondent in the names of the thirteen villages which he subsequently learned to be on the three western islands.

On the 16th of October they sailed from the anchorage (four or five miles west of Goleta Point or eleven miles west of Santa Barbara Light-house) to an anchorage twenty or twenty-one miles west of the same light-house, and very likely abreast the opening of the Cañada del Refugio, in latitude $34^{\circ} 27'$. On the 17th they got as far as abreast the Gaviota Pass, latitude $34^{\circ} 28'$, where Ferrelo mentions getting large quantities of fresh sardines. If anchored just inside the kelp-field they would be in a fairly good position.

During these two days and the next Ferrelo does not mention seeing the Santa Barbara Islands; they may have been obscured by fog, for in a few days they discover San Miguel and Santa Rosa Islands. Gaviota anchorage is twelve miles east of Point Concepcion.

Vizcaino sailed through the Santa Barbara Channel without stopping, but on the main shore, two-thirds of the distance from San Buenaventura to Point Concepcion, he has made a drawing on his chart to represent "a large Indian town, adding "all this coast is wooded and free from shoals."

El Cabo de la Galera, $36\frac{1}{2}^{\circ}$, Cabrillo.

El Cabo de Galera, 36° "and more," Ferrelo.

La Punta de la Concepcion.

Point Concepcion, or Conception, in latitude $34^{\circ} 27'$; correction to Ferrelo, — $1^{\circ} 33'$ "and more;" to Cabrillo, — $2^{\circ} 03'$.

Cabrillo's description of the cape is good. It cannot be mistaken for Point Arguello, eleven miles to the north-westward. For a detailed description of this cape, and of Point Arguello, see Davidson's Coast Pilot.

Very curiously Vizcaino does not mention this remarkable headland, although he has it on his chart, but not named.

La Isla de San Lucas, Ferrelo. (See pp. 206, 226, 228.)

Las Islas de San Lucas, Ferrelo.

They had already seen the Island of Santa Rosa, as part of the Island of Santa Cruz when they overlapped and were named San Lucas. Now they discover San Miguel separated from the Island of Santa Rosa, which was supposed to be the western part of San Lucas.

Santa Cruz is twenty miles long, Santa Rosa fifteen miles, and the two, with the intervening passages, thirty-seven miles, or twelve leagues, which Cabrillo reckoned

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clothed. They passed this day parallel with the shore of a large island which is fifteen leagues in length, and they said that it was very populous, and that it contained the following villages: Niquipos, Maxul, Xugua, Nitel, Macamo, Nimitopal. They named the island San Lucas; it is from this place to Pueblos de las Canoas eighteen leagues; the island is from the continent six leagues.

Monday, the sixteenth of the said month, sailing along the coast they proceeded four leagues, and anchored in the evening opposite two villages; and also this day canoes were continually coming to the ships, and they made signs that further on there were canoes much larger.

The Tuesday following, the seventeenth day of the said month, they proceeded three leagues with fair weather, and there were with the ship from daybreak many canoes, and the Captain continually gave them many presents; and all this coast where they have passed is very populous; they brought with them a large quantity of fresh sardines very good; they say that inland there are many villages and much food; these people did not eat any maize; they went clothed with skins, and wear their hair very long and tied up with cords very long and placed within the hair, and these strings have attached many small daggers of flint and wood and bone. The land is very excellent in appearance.

Wednesday, the eighteenth of the said month, they went running along the coast until ten o'clock, and saw all the coast populous, and because a fresh breeze sprung up the canoes did not come.

They came to a point which forms a cape like a galley, and they named it Cabo de Galera, and it is in a little over thirty and six degrees,

and because there was a fresh northwest wind they stood off from the shore and discovered two islands, the one large, which has eight leagues of coast running east and west; the other has four leagues, and in this small one there is a good port, and they are peopled; they are ten leagues from the continent; they are called las Islas de San Lucas. From the mainland towards Cabo de Galera the shore trends west by north, and from Pueblo de las Canoas to Cabo de Galera there is a very populous province, and they call it Xexu; it has many languages

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and having sailed little in several days, on account of the too fine weather, the Wednesday, of the eighteenth of the said month, they arrived at a long point, which forms a cape, and on account of its length like a galley, they named it el Cabo de la Galera; this is in thirty and six degrees and a half,

and because the wind was northwest fresh they were carried to leeward by the sea and they discovered two islands, the one of eight leagues of coast East West, and the other of four; in this they discovered a port small, very good; they found them very populous; and these people, and all those of the coast passed by, lived by fishing, and make beads from the bones of fishes, to trade with the other people of the mainland, and they are ten leagues from the Cabo de Galera: running west quarter to the northwest. During the eight days they remained

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eight leagues. San Miguel is seven and a half miles long, or two and a half leagues, whereas Cabrillo reckons it four leagues. Santa Rosa is the Isla de Cleto of Vizcaino.

From San Buenaventura to Point Concepcion the trend of the coast-line is a very little north of west, and the distance is actually twenty leagues. I suppose they propose to give only the general direction of the coast.

La Isla de la Posesion, Cabrillo.

La Isla de Posesion, Ferrelo.

Una de las Islas de San Lucas, Ferrelo.

La Isla de Baxos, Vizcaino's chart.

Ciquimaym, Indian, Ferrelo.

San Miguel Island; the latitude of the anchorage is $34^{\circ} 03'$ (see p. 226). Ferrelo named the island La Isla de Juan Rodriguez after Cabrillo's death.

El Puerto de la Posesion, Cabrillo, Ferrelo.

Cuyler's Harbor. (See pp. 204, 226, 236.)

This is the largest and best harbor around the Island of San Miguel. It is a moderately large bay on the north-east face. Its extent is a little more than one mile between the eastern and the western heads, and about two-thirds of a mile deep. It has bold shores and approaches, and a large rocky islet half a mile north of the eastern head. This islet is five hundred yards in extent and 303 feet high, with a precipitous face to the north-northwest. Across the mouth of the harbor stretches a dense field of kelp having six fathoms of water throughout the greater part of it, but marked by two reefs and rocks near the middle, and almost in line between the heads. There are other rocky patches in the eastern part of the harbor.

Vessels coming into the harbor from the northwest pass within half a mile of the western head, through the kelp, at a distance of only three hundred yards from the cliffs, and then haul towards the western bight of the bay, where they anchor in five fathoms of water; over hard bottom, but protected from all save the north and east winds, which rarely blow. The heavy swell from the strong northwest winds reaches well into the anchorage. (See p. 236.)

Vessels cannot easily enter by the eastern passage unless familiar with the dangers and currents.

Water is found at one place on the steep southern hill face, and during winter water drains down the gully at the western part of the long beach southeast from the anchorage.

The summit of the island lies only a mile southward of the anchorage, and is about seven hundred feet above the sea. It is in latitude $34^{\circ} 02'$. There is not much vegetation upon the island, and the south and western part is swept by sand driving from the ocean beach.

The evidences are very strong of there having been a very large Indian population on this island, and doubtless the fishing was good among the kelp-fields and rocky patches off the west and northwest parts of the island.

They may have been in the broad bight between Point Concepcion and Point Arguello.

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different from each other; they have many great wars with each other; it is from El Pueblo de las Canoas to El Cabo de Galera thirty leagues; they were in these islands until the following Wednesday, because it was very stormy.

Wednesday, the twenty-fifth of the said month, they departed from the said islands, from the one which was more to the windward; it has a very good port, so that from all the storms of the sea no damage will be suffered by those within its shelter; they called it La Posesion.

This day they advanced little, as the wind was not favorable; and in the middle of the following night they had a wind, south-southwest and west-southwest, with rain, so that they saw themselves in difficulty, for it was an on-shore wind and they were near the land, and they could not double the cape on one tack or the other; and the following Thursday at vespers the wind veered to the south, and they proceeded on their course ten leagues to a

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they were well treated by the Indians, every one going naked, and they have their faces painted in the manner of a chess board; to this port they gave the name de la Posesion

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Wednesday, on the twenty-fifth, they sailed with fine weather from this Puerto de la Posesion, with wind southwest, and the following day they had it south, and southwest, with rain showers, and fog, and they had a rough time, the wind blowing on shore, being near the coast and a heavy swell running.

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The coast north of Point Arguello to San Luis Obispo Bay has a general trend north and south (true) for a distance of thirty-six miles.

Point Sal is eleven leagues from Point Concepcion, following the grand trend of the coast, and they were probably between Point Purisima and Point Sal.

Point Purisima is in latitude $34^{\circ} 47'$.

Point Sal is in latitude $34^{\circ} 54'$.

The Purisima River is in latitude $34^{\circ} 42'$, just north of the bold Point Arguello. (See p. 210.)

This river was certainly the Parisima, emptying just north of Point Arguello and known on the State map as the Santa Ynez. It comes through large valleys north of the Santa Ynez range, and from seaward the country has the appearance of needing a large river for drainage. Vancouver in sailing past it recorded that it seemed to give the indications of a greater river than any since he had left the Columbia.

The town of Xexo, Ferrelo.

This was at the opening of the valley lying upon the Coxo anchorage. There is water in the valley at all seasons, and some oak trees, but wood was not plenty in 1850 when we were encamped here for more than three months.

El Puerto de Todos Santos, Ferrelo.

El Coxo anchorage in latitude $34^{\circ} 28'$.

There can be no doubt about this port and anchorage being the same; and although Kohl says this anchorage was east of Cape Concepcion, yet he confounds it with San Luis Obispo, which is thirty-six miles to the northward.

El Pueblo de las Sardinias, Cabrillo.

Los Pueblos de las Sardinias, Ferrelo.

El Puerto de las Sardinias, $35\frac{3}{4}^{\circ}$, Ferrelo. (See pp. 210, 228.)

Cicacut, the Indian name, Ferrelo.

The Gaviota Anchorage off the Gaviota Pass; latitude $34^{\circ} 27'$; correction to Ferrelo, $-1^{\circ} 13'$. It was at this anchorage where they got so many fresh sardines on the 17th of the month. It should be noted that it was their last anchorage before reaching Point Concepcion.

This gives us seventeen villages, including that at the Coxo, in a distance of eleven miles, exactly one village to each streamlet from the Gaviota Pass to the Coxo.

Xucu: elsewhere Ferrelo says this province of Xucu extends from San Buenaventura to Point Concepcion.

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coast running north-northwest and south-southeast; all this coast is inhabited and in appearance good land; this night they kept out to sea, for they had an on-shore wind, and the Friday and Saturday following they were beating about on one tack or the other with foul winds, and could gain nothing, and they were in thirty and six degrees and a half, ten leagues from Cabo de Galera; and in the same manner they held on during Monday and Tuesday to the thirty-first of the said month, the eve of All Saints' Day, beating about on one tack and the other; and they wished to approach the mainland in search of a great river of which they had notice, which was on the other side of the Cabo de Galera, and because there were on land many indications of rivers, and yet they found no river. Nor did they anchor here for the coast was very bold. They found during this month on this coast the weather as in Spain, from thirty-four degrees and upwards, and with much cold mornings and evenings and with storms, dark and cloudy weather, and the air heavy.

Wednesday, at midnight, on the first day of November, standing off, a strong wind from the north-northwest struck them, which did not let them carry a palm of sail, and by the dawn of day freshened so much that they could do no less than seek shelter, and they took refuge under Cabo de Galera and anchored there and went on shore, and because there was a large town which they called Xexo, and wood did not appear to be much at hand, they decided to go to Pueblo de las Sardinias, because there water and wood were very near and acces-

sible. They called this shelter under Galera Puerto de Todos Santos.

The following Thursday they went to Pueblos de las Sardinias, where they were taking in water and wood three days, and the natives of the country aided them and brought wood and water to the ships. This village of the Puerto de las Sardinias is called Cicacut, and the others, which are from this place to Cabo de Galera, are Ciucut, Anacot, ⁽⁷⁾ Maquinanoa, Paltatre, Anacoat, Ole-sino, Coaacat, ⁽⁸⁾ Paltocac, Tocaue, Opia, Opistopia,

Nocos, Yutum, Quiman, Micoma, Garomisepona. An old Indian woman is princess of these villages, who came to the ships and slept two nights in the Captain's ship, and the same did many Indians. The village of Ciucut appeared to be the capital of the other villages, as they came there from other villages at the call of the princess; the village which is at the cape is called Xexo. From this port to Pueblo de las Canoas there is another province which they call Xucu ⁽⁹⁾; they have their houses round, and covered very well down to the ground; they go cov-

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Friday, Saturday, and Sunday on the twenty-ninth, they kept under way, with the wind from all quarters, with much difficulty.

Monday and Tuesday, of the thirty-first, they had showers and cloudy weather.

Wednesday, the first of November, at midnight, heading towards the shore they had much wind northwest, which did not allow them to carry a palm of sail, and they returned around the Cabo de la Galera, which affords good protection from this wind.

And Thursday, on the second of the same month, they were at the Pueblo de Sardinias, having sailed along forty leagues of land very well populated, and with good people; and from one village, near this port, there came the principal people aboard the ship, and they danced to the sound of a drum, and a flute of the Castilians, and they slept on board, and during these festivities they took in water, and wood, and their houses were large, with double sloping roofs, like those of New Spain, and their burying grounds were surrounded with boards: they give the name Sejo to this province: they ate acorns, hazel nuts, and fish: they said that farther on there were people with clothes on.

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Cabrillo says this province is named Sejo. The name Coxo, or Cojo, is evidently derived from these words. (See the Coxo anchorage.)

"Tamales," a well-known Spanish article of food, prepared by boiling some kind of flesh, rolled in thin sheets of dough, and wrapped in the husks of the maize. It is sold in San Francisco under the same name.

El Puerto de las Sardinias, $35\frac{3}{4}^{\circ}$, Ferrelo.

The Gaviota Anchorage is in latitude $34^{\circ} 27'$; correction to Ferrelo, $-1^{\circ} 13'$. (See p. 208.)

Kohl says this harbor is to the eastward of Cape Concepcion, and yet he adds, in clear contradiction, that it "is perhaps the place now known as San Simeon," which is to the northward of Point Concepcion.

Compare with Vizcaino's description of the religious (?) ceremonies at the Great Depression of Santa Catalina Island (pp. 90-94) of the *Noticia*, etc.

El Rio de Nuestra Señora, Cabrillo. (See p. 208.)

The Purisima River, in latitude $34^{\circ} 42'$. (See Davidson's Coast Pilot for description and for the variety of names it has had.)

At the first attempt Ferrelo said ten leagues, and he was then between Point Purisima and Point Sal.

Twenty leagues beyond this position, at six leagues from the coast which they would appear to be gradually avoiding, as the southeaster was coming up.

Esteros Bay: The latitude of the haystack shaped El Morro, which is in the middle of this bay, is $35^{\circ} 22'$; its elevation is 573 feet, and it forms a notable landmark abreast the entrance to Morro Bay.

There is no harbor for shelter on this part of the coast from the southerly gales of winter; but there is protection from the summer winds under the northern shores of Esteros Bay, San Luis Obispo Bay, and San Simeon Bay. Vizcaino appears to have been closer in shore and to have recognized these heights.

Las Sierras de San Martin, $37\frac{1}{2}^{\circ}$, Cabrillo, $37\frac{1}{2}^{\circ}$, Ferrelo.

La Sierra de Santa Lucia, Vizcaino.

Cape San Martin, latitude $35^{\circ} 54'$; correction to Cabrillo and Ferrelo, $-1^{\circ} 36'$. (See pp. 212, 224, 226.)

They were nearly abreast Las Piedras Blancas and San Simeon Bay, behind which rise the massive peaks of Rocky Butte, in latitude $35^{\circ} 41'$, 3,400 feet above the sea and visible at sixty-five miles; and Pine Mountain, in latitude $35^{\circ} 42'$, 3,500 feet above the sea and visible at sixty-six miles; they are only three miles apart. These form the southern part of the bold, compact, and unbroken line of high mountains hence to Point Pinos. It is the highest and the boldest range of coast mountains along this Pacific seaboard, reaching 6,200 feet elevation at Santa Lucia Mountain and 5,100 feet at Cone Mountain or the Twin Peaks. The former is only ten miles from the coast-line and the latter only four or five miles.

From his description he was distant about twenty-five miles, nearly south, of the present Cape San Martin, which

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ered with the skins of many kinds of animals; they eat oak acorns, and a grain which is as large as maize, and

is white, of which they make tamales; it is good food. They say that inland there is much maize, and that men like us are travelling there: this port is in thirty and five degrees and two-thirds.

Monday, the sixth of the said month of November, they departed from the said port of Sardinias, and that day they made hardly any progress, and until the following Friday they held on with little wind. This day they reached Cabo de Galera; through all this course they could not make use of the Indians who came to board them with water and fish and showed much good disposition; they have in their villages their large public commons, and they have an inclosure like a circle, and around the inclosure they have many blocks of stone fastened in the ground, which project about three palms, and in the middle of the inclosures they have sticks of timber driven into the ground like masts, and very thick; and they have many pictures on these same posts, and we believe that they worship them, for when they dance they go dancing around the inclosure.

The Saturday following, the day of San Martin, on the eleventh of the said month of November, they proceeded, sailing along the land and they found themselves this morning twelve leagues from the cape, in the same place where they arrived first; and all this day they had a good wind so that they sailed along a coast, running northwest and southeast full twenty leagues; all this coast which they passed this day is a bold coast without any shelter whatever,

and there extends a cordillera of sierra along the whole of it, very lofty, and it is as high by the sea as on the land within; the sea beats upon it; they saw no population nor smoke, and all the coast, which has no shelter on the north, is uninhabited; they named the mountain Las Sierras de San Martin; they are in thirty and seven degrees and a half;

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CHAPTER IV.

Which continues the discoveries of the two vessels of Don Antonio de Mendoza in the South Sea.

Saturday, on the eleventh, they were coasting, with a southeast wind and continually they were looking for el Rio de Nuestra Señora, and did not find it,

“This fair weather enabled the ships to get away from the islands; and standing in for the continent to take a draught of the coast, they found it extremely high and mountainous,

but with some well sheltered bays, from one of which came four rush canoes.” * * *

[On his chart he lays down the large bight forming Esteros Bay with the notable Morro in the middle of its length, and the entrance to Morro Bay, but he gives no name.] “Here they had a formidable gale which lasted until the 14th of December;

but a great range of mountains very high, with many trees, to which they gave the name Las Sierras de San Martin, and they are in thirty and seven degrees and a half,

and the weather clearing up a little in the daytime, the ships found themselves near a very high and white ridge of mountains; but reddish towards the base, and covered with woods. This range they call the Sierra de Santa Lucia; it is the usual landfall for the China ships (p. 100).”

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is the great flanking spur or buttress for this mountain range. He was sixty miles south by east from the termination of the range at Carmel Bay, and the mountains are so high and so near the coast-line that he could have seen them if the weather permitted; but it is almost certain that he estimated his latitude and did not observe it. Even Mount Carmel, north of the Sur, is 4,417 feet above the sea and visible at a distance of seventy-five miles. It is in latitude $36^{\circ} 22'$ and is only eight miles inside of Point Sur. The latitude of the Twin Peaks overlooking Cape Martin is $36^{\circ} 03'$. The highest peak is 5,100 feet above the sea and is visible at a distance of eighty miles, and only four or five miles inshore.

We applied the name to Cape San Martin some years since to commemorate this landfall of Cabrillo.

Point Sur, or The Sur: This is a remarkable rocky looking head, rising 358 feet above the sea, and is connected with the mainland by a narrow low neck of sand dunes. See Davidson's Coast Pilot.

On his chart Vizcaino has, in this position, a slightly projecting point and the legend "Point appearing as an island."

Vancouver thought it was an island. It is in latitude $36^{\circ} 18'$.

El-Rio del Carmelo, Vizcaino.

Carmel Bay and River, in latitude $36^{\circ} 34'$.

The bay of Carmel is twelve miles northwestward of the island-like point known as "The Sur." The river is a stream of minor importance, and in 1770 a mission was founded on its banks and overlooking the bay.

El Cabo de Martin, 38° , Cabrillo, Ferrelo.

El Cabo de San Martin, $37\frac{1}{2}^{\circ}$, Ferrelo.

La Punta de Pinos, Vizcaino (p. 161).

La Punta de los Pinos, recent charts.

Point Pinos, in latitude $36^{\circ} 38'$. (See pp. 210, 224, 226, 236.)

I think their Cabo de Martin, when they were driven off the coast near las Piedras Blancas, was the termination of the mountain range at or near Carmel Bay, in latitude $36^{\circ} 30'$. They could not have seen the pine-clad hill behind Point Pinos at the distance of sixty miles. But on the return of the expedition they explicitly state that the Cabo de San Martin which they made was in thirty-seven and a half degrees.

If we assume this later determination of his position to be the better one, the correction to Ferrelo's latitude is, $-1^{\circ} 00'$.

On his voyage northward Cabrillo was forced by the southeast storm to leave the coast before he sighted Point Pinos, and afterwards he made the land near Fort Ross, in latitude $38^{\circ} 35'$.

Vizcaino's description cannot be mistaken. Except that he gives no idea of the height of the pine-covered hill lying between Carmel Bay and Monterey Bay, it describes the point and applies to no other.

El Puerto de Monte-Rey, Vizcaino.

Monterey Harbor, in latitude $36^{\circ} 31'$.

This harbor is well protected from the southeast storms which were those most destructive to the early navigators, and therefore Vizcaino extolled it far beyond its real merits and thus misled Constanzo and others in 1769.

the spurs of these and of the sierras on the northwest form a cape which projects into the sea in thirty and eight degrees; they named it Cabo de Martin.

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(P. 100.) "Four leagues farther a river enters into the sea between some rocks, after a precipitate course from some high and white mountains; the banks of this stream are covered with black and white poplars, willows, and other trees and brambles known in Spain. This river is called del Carmelo.

and at the termination of them, at the northwest, it forms a cape which is in thirty and eight degrees, and they named it Cape Martin.

"Two leagues farther northward of the river Carmelo there is a famous port, and between this and the river there is a forest of pine trees two leagues in extent, and there is a point of land at the entrance to the harbor that is called Punta de Pinos (p. 100).

(P. 101.) "On the 16th of December the squadron put into this port which was called de Monte-Rey (in honor of Don Antonio de Mendoza, the Count of Monte-Rey, Viceroy of New Spain; by whom they had been sent on this Discovery, in the name of his Majesty). * * *

(P. 107.) "This is a very good harbor, and affords good

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Although open to the northwest winds they do not blow home with great force.

Vizcaino applied the name only to the southeast angle of the bay where the town of Monterey is situated. This is evident from his outline chart, although he has the general features to the north and northwestward. For a detailed description of the harbor and bay see Davidson's Coast Pilot.

Point Año Nuevo, latitude $37^{\circ} 06'$.

Vizcaino has no reference to this low point or to the massive spur behind it in his narrative; and no name on his chart, although there is a point faintly indicated in this locality. (See p. 224; Black Mountain.)

Half Moon Bay, latitude $37^{\circ} 30'$.

The indication of this bay is very clear on the chart of Vizcaino, but there is no name given to it, and no reference made to it in the narrative. The general trend of the coast is good. North of Half Moon Bay, Vizcaino's chart says, "the coast is wooded," which is one of its characteristics for a very short distance.

La Baia de Pinos, Cabrillo.

La Bahia de los Pinos, Ferrelo; latitude 39° and a "little more."

La Ensenada de los Farallones, later Spanish authority The Gulf of the Farallones of the U. S. Coast and Geodetic Survey. (See p. 222.)

Correction to Ferrelo, $-1^{\circ} 00'$ and a "little more."

This gulf, extending from Point San Pedro, in latitude $37^{\circ} 35'$, to Point Reyes, in latitude $38^{\circ} 00'$, and embracing the Farallones de los Frailes, was seen by Cabrillo and Ferrelo, as is shown by their narratives, on their first return from the northward, Friday, the 16th of November, 1542.

Whether they intended the name to include this great bight is doubtful, although Cabrillo called it a "great gulf," but this may mean only the bight between Point Reyes and Ballenas Point. There are no pines south of those which are on the ridges near Mount Tamalpais* until we reach Point San Pedro and then they are sparse until the crest-line is reached about latitude $37^{\circ} 25'$.

Portus Novæ Albionis, Drake, 38° and $38^{\circ} 30'$.

El Puerto de San Francisco, Vizcaino.

Sir Francis Drake's Bay.

Drake's Bay, latitude $38^{\circ} 00'$.

Drake's Bay is a capital harbor in northwest winds, such as Drake encountered. It is easily entered, sheltered by high lands, and a vessel may anchor in three fathoms close under the shore in good holding ground. Drake's vessel drew thirteen feet of water "to make her swim," and it would appear that when she was leaking he moved her to the beach and careened her.

If he had been inside the Estero Limantour, of which he could not have detected the entrance from his vessel, he would necessarily have been very close to either shore. And had he seen it he would not have dared to enter it without sounding it out. It has only thirteen feet of water on the bar at the highest tides, and he would not have hazarded his vessel in entering such a doubtful anchorage. Nor would he have risked the pos-

* Tamalpais, the country of the Tamal Indians. The Table Mountain of Berkeley.

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protection, and is sheltered from all winds. It has extensive forests, and an infinite number of very great pines, straight and smooth, fit for masts and yards; likewise evergreen oaks of a prodigious size proper for building ships. Here also are rose-trees, white thorns, firs, willows, and poplars; large clear lakes, fine pastures, and arable lands. * * * The sea abounds with oysters, lobsters, crabs, etc. Also huge sea wolves and whales. This harbor is surrounded with rancherias of indians, a well-looking affable people; * * * who expressed great concern when the Captain and tender sailed out of this harbor on the third of January, 1603, * * * in search of the Cabo Mendocino.

"Hero" (p. 116).

"They were forcibly carried southward from forty-eight to thirty-eight degrees, where they found the land low and plain, with some few hills covered with Snow. June 17th, [1579,] (p. 117) they came to a convenient harbour and continued there till July 23rd, during which, though in the height of Summer, yet they had constant nipping Cold (neither for fourteen days could they see the Sun for the foggiess of the Air), * * * the Trees being without Leaves, and the Ground without Grass, even in June and July: * * * Tho' the real Cause of this Extremity is uncertain, yet it is judged to proceed from the large Continent of America and Asia, near together, northward of this place, from whose high Mountains, always covered with Snow, the North-West Winds, which usually blow on those Coasts, bring this almost unsufferable sharpness, which the Sun in his greatest Heat is not able to dissolve, from whence the Earth is so barren, and the Snow lies at their Doors almost in the midst of Summer, but is never off their Hills, from whence proceeded those stinking Fogs through which the Sun cannot pierce, nor draw the Vapors higher into the Air, ex-

"The Capitana and Fragata had no sooner left the harbor of Monterey to seek for the Cabo de Mendocino, than they had a formidable wind which lasted to the sixth of January, the day of the Los [Santos] Reyes, and carried them beyond the Puerto de San Francisco. And the day after that of Los Reyes, which was the 7th of January, the wind suddenly shifted to the northwest and blew somewhat fiercely, but they were able to make some headway; and the Fragata concluding there was no necessity to seek a harbor from this wind continued her voyage; and the Capitana thinking they were in company did not show a light; so in the morning they were not in sight of each other, and the General returned with the Capitana to the Puerto de San Francisco to wait for the Fragata; but they did not hear of her until they returned to Mexico. Another reason which prompted the Capitana to put into Puerto de San Francisco, was to make a reconnaissance of it, and learn if anything was to be found of the ship San Augustin, which came upon the coast in 1595, * * * under the Pilot Sebastian Rodriguez Cermeño; and being in this port she was

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sibility of attack from the Indians in such a contracted place. He doubtless anchored in Drake's Bay, and the reef in his plan represents in a crude manner the reef off the easternmost point of Point Reyes Head. In a rough sketch of his anchorage it is called *Portus Novæ Albionis*.

The "World Encompassed" describes Drake leaving the coast in latitude 43° and going southward, as follows: "And he drew backe againe without landing, til we came within thirtie-eight degrees towards the line. In which height, it pleased God to send us into a faire and good bay, with a good wind to enter the same."

In the "Hero" the narrator says:

"From the height of 48 degrees, in which now we were, to 38° , we found the land, by coasting alongst it, to bee but low and reasonable plaine; every hill (whereof we saw many, but none verie high), though it were in June, and the Sunne in his nearest approach onto them, being covered with snow.

"In 38° degrees 30 minutes, we fell in with a convenient and fit harborough, and June 17th came to an anchor therein." * * *

Continuing in the "World Encompassed," the narrator writes:

"In this bay we ankered the seventeenth of June, and the people of the Countrey, having their houses close by the water's side, shewed themselves unto us, and sent a present to our Generall. * * * Our Generall called this countrey *Nova Albion*, and that for two causes: the one, in respect of the white bankes and cliffes, which ly towards the sea; and the other, because it might have some affinitie with our countrey in name, which sometime was so called.

"There is no part of earth here to bee taken up, wherein there is not some speeciall likelihood of gold or silver.

"At our departure hence our Generall set up a monument to our being there." * * *

From a recent visit to Drake's Bay (1886), we feel assured he was anchored close under the point. From this place he could not see any fair indication of there being a lagoon like the *Estero de Limantour*. Moreover, that he was not in that estero would appear by the following precautions he took against any surprise by the natives:

"The third day following, viz, the 21st, our ship having received a leake at sea, was brought to anchor neerer the shore, that, her goods being landed, she might be repaired; but for that we were to prevent any danger that might chance against our safety, our Generall first of all landed his men, with all necessary promission, to build tents and make a fort for the defence of our selves and goods; and that wee might vnder the shelter of it with more safety (what ever should befall) end our business" (p. 122). "When they [the Indians] came to the top of hill, at the bottom whereof wee had built our fort, they made a stand." * * *

On the sketch of *Portus Novæ Albionis* there is the legend, "Fada corporum laceratione et crebris in montibus sacrificiis hujus Novi Albionis portus intus Drecis jumbis coronote decesium deflent."

(By horrible lacerations of their bodies and by frequent sacrifices in the mountains, the inhabitants of this

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cept the fierce Winds do sometimes scatter them; and when gone, the Fogs return as before."

Chap. VI., p. 118. * * *

"Next day after their coming to Anchor in the harbour afore-mentioned, the Natives of the Country discovering them, sent a Man to them in a Canoe, with all Expedition. * * * June 23, their Ship being leaky, came nearer the shore to Land their Goods; but to prevent any surprize, the General sent his Men ashore first with all necessaries for making Tents, and a Fort for securing their Purchase; * * * their Houses are dug round within the Earth, and have from the surface to the Ground, Poles of Wood set up and joined together at the Top like a Spired Steeple, which being covered with Earth, no water can enter (p. 120), and are very warm, the Door being also the Chimney to let out the Smoke, which are made Slopous, like the Scuttle of a Ship * * * (p. 121). The General having experienced the treachery of other Infidels, provided against any Alteration of their mind, setting up Tents, and intrenching themselves with Stone Walls; which done they grew more Secure. * * * The Indians * * * coming to the Top of the Hill, at the Bottom whereof they had built their Fort, they made a stand, where their chief speaker wearied himself, and them with a long oration, &c. (p. 123), their High or King appeared. * * *

(P. 123). "Having finished their Affairs the General and some of his Company made a Journey up into the Country, to observe their manner of Living, with the Nature and Commodities of the Country; * * * the Inland was far different from the Seashore, it being a very fruitful soil, furnished with all Necessaries, and stored with large fat Deer, whereof they saw Thousands in an Herd, &c. * * *

"This Country General Drake called Nova Albion, both because it had white Cliffs towards the Sea, and that its Name might have some likeness to England, which was formerly so called. Before they went hence, the General caused a Monument to be erected, signifying the English had been there, and asserted the Rights of Queen Elizabeth and her Successors to that Kingdom, all engraven in a Plate of Brass, and Nail'd to a great firm Post, with the Time of their Arrival, the Queen's Name, and the free Resignation of the Country by the King and People into her Hands; likewise her Picture and Arms, and underneath the General's Arms. * * *

"July the 23rd, they [the Indians] took a sorrowful leave of them, but loth to part with them, they went to the top of the Hills to keep sight of them as long as possible, making Fires before, behind, and at each side of them, therein they supposed Sacrifices were offered to their happy Voyage."

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wrecked and driven on shore by a contrary wind; and among those who were there at that occurrence was the chief pilot,

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port of New Albion deplore the departure of Drake now twice crowned.)

Among the Nicasio Indians of the Nicasio Valley, lying to the eastward of Drake's Bay, there is said to be a tradition that Drake anchored in this bay; that some of his crew deserted and lived among the Indians; and that he gave the natives some seeds, and among other things some hard ship-biscuit, which they innocently planted. He also left among them a sow and a boar; and the early Spaniards report that when they came to this region the country was filled with wild hogs.

Ballenas Bay: To the southward of Drake's Bay, and nearly half way to San Francisco Bay entrance, there is a small cove somewhat protected by a reef from the north-west swell. The name Volanos or Bolanos, Vizcaino's pilot, at once suggests the origin of the present name *i. e.*, the Bay of Bolanos.

La Punta de los Reyes, Vizcaino.

Point Reyes, latitude $38^{\circ} 00'$.

The chart of Vizcaino gives a fair idea of Point Reyes and its relation to Drake's Bay, but the latter is exaggerated. He has an entrance to a large estero now known as the Estero de Limantour, or Drake's Lagoon.

For a detailed description of this remarkable headland, which forms the northern boundary of the Gulf of the Farallones, see Davidson's Coast Pilot.

The Isles of St. James, Drake.

Los Frayles, Vizcaino's chart.

Los Farallones de los Frayles of the later Spanish navigators.

The North Farallones, the Middle Farallon, and Southeast Farallon, latitude $37^{\circ} 42'$.

It is a curious fact that neither Cabrillon nor Ferrelo mention these notable islets, although they describe and name the great gulf under Point Reyes Head. Drake's description admits of no doubt whatever. Vizcaino does not mention this extensive group of high islets in his narrative, but has five "Frayles" laid down off his port of San Francisco, doubtless the North Farallones, and a large islet close inshore and to the southward. This latter is certainly the largest and highest, or the Southeast Farallon, and it would appear that he did not sail between it and the shore, because he has laid it down dangerously near to the coast.

This remarkable group of islands forms a notable feature in the navigation of this part of the coast. The Southeast Farallon is a high rocky islet about one mile in extent, rising abruptly from deep water, with several well-defined heads, one of which attains an elevation of 360 feet. This islet may sometimes have been mistaken for several islets close together. It lies in latitude $37^{\circ} 42'$, twenty-four miles broad off the Golden Gate, and eighteen miles true south of Point Reyes Head. It is a wild granitic mass of rock, without a particle of soil, and the resort and breeding-place of thousands of sea-lions and millions of sea birds. There are two or three landing places around the island.

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Francisco de Volañes, who was with the present expedition. He recognized the place and affirmed that they had left on shore a great quantity of wax, and chests of silks, and the General was anxious to discover some vestiges of these.

"The Capitana came to anchor behind a point of land which makes this port [Puerto de San Francisco, *i. e.* Drake's Bay], and which he called La Punta de los Reyes; but no one was sent ashore that they might be in readiness for the tender; and on the day following, the Capitana sailed out in search for her. The wind was northwest and light and the Capitana moved slowly. * * *

"A little without their Harbour lye certain Isles, and by them the Islands of St. James, wherein are plenty of Seals and Fowls, and Landing on one of them the next day, they supplied themselves with competent Provision for some time (Hero, p. 129).

"The 23 of *July* they took a sorrowfull farewell of vs but being loath to leave vs, they presently runne to the top of the hills to keepe vs in sight as long as they could, making fires. * * *

"Not farre without this harborough did lye certain Islands (we call them the Islands of Saint *James*), having on them plentifull and great store of Seales and birds, with one of which wee fell *July* 24, whereon we found such provision as might competently serue our turne for a while. We departed againe the day next following, viz, *July* 25." (World Encompassed, p. 134.)

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The North Farallones is a group of four smaller islets and low rocks gathered together in a somewhat compact body. The four principal islets are high, barren, and almost inaccessible. The highest rises to an elevation of 158 feet. The group lies six and three-fifths miles northwest by west from the Southeast Farallon, and twelve miles south-southwest from the western extremity of Point Reyes Head.

The depth of water around these islands is thirty fathoms, and the same continues well in towards the shore so that it is somewhat strange that Cabrillo, Ferrelo, and Vizcaino did not go inside of them; they could not have been coasting very closely along the main shore.

Frequently these islets are hidden by the fogs even when the shores are fairly free and visible.

Rio Grande de San Sebastian, Vizcaino's chart.

Tomales Bay:

The mouth of Tomales Bay is in latitude $38^{\circ} 14'$.

This body of water is shown on Vizcaino's chart but no mention is made of it in the narrative. It is indicated in the locality of Bodega Bay, six leagues north of Point Reyes, by a large river leading many leagues to the eastward. It might be considered the Estero Americano, but this stream is quite narrow, not straight, and is not easily made out from seaward. It is almost certainly Tomales Bay, which would show the mile-wide entrance between the ridge of Tomales Peninsula and the equally high land forming the eastern shore of the bay.

Tomales Bay is ten miles long with a navigable channel a good distance in. But the bar at the entrance is generally marked by breakers, and has less than ten feet of water upon it at low tide.

On old Spanish charts we find the name sometimes spelled Tamales; and it would seem a reasonable conclusion that it was named after the Tamal Indians.

The vessels of Cabrillo were compelled by stress of weather to leave the coast when near Cape San Martin. From his description I place him about twenty-five miles nearly south of the present Cape San Martin, which is the great flanking spur from the mountains of the Santa Lucia range. He was sixty miles south by east from the termination of the range at Carmel Bay, and the mountains are so high that he may possibly have seen them; but it is more probable that he estimated his distance, and also that the range was cloud-capped.

In the heavy "southeaster" it is evident that their small vessels were very seriously in danger, and that for safety each had to look out for itself.

A rough plotting of their courses clearly indicates that they were far away from the coast.

"Echelon un Romero" means that they cast lots to decide who should go on the pilgrimage to the church and make the offering to Our Lady Guadalupe. A marginal note in Herrera states: "Voto de los Marineros de la Nao de D. Antonio de Mendoza, a Nuestra Señora del Rosero."

They sight land to the northward of the Slavianski or Russian River on the 14th; the summit of Ross Mountain is over 2,200 feet above the sea and only three miles from the shore. It is in latitude $38^{\circ} 30'$, and is visible from the latitude of Point Reyes.

This same night of Saturday, at four o'clock in the night, being in the sea about six leagues from the coast, lying to waiting for the day, with a southeast wind, so great a storm struck them from the southwest and the south-southwest with rain and dark cloudy weather, that they could not keep up a handbreadth of sail, and it made them send with a small foresail, with much labor, all the night, and the Sunday following the tempest broke upon them with much greater violence, which continued that day and night until the following Monday at noon, and the storm was as great as can be experienced in Spain. On Saturday night they lost sight of their consort.

Monday, the thirteenth of the said month of November, at the hour of Vespers, the weather cleared up and the wind veered to the west, and immediately they made sail and went in search of their consort steering towards the land, praying to God that they might discover her, as they much feared that she would be lost; they were running to the north and to the north-northwest; with the wind west and west-northwest; and the following Tuesday at daybreak they had sight of the land, and they were able to hold on until the evening, and they could see that the land was very high, and they cruised along the coast to see if there was any port where they might take shelter; and so great was the swell of the sea that it was fearful to behold; and the coast was bold, and the

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and at four hours in the night, commencing to blow strongly the wind from the south-southeast, and from the southwest, with showers, and heavy clouds, and a great sea that nearly engulfed them, and at dawn, it blowing tremendously, it was not possible to run, except with the least amount of sail, before the wind, and on account of the strong sea, wind, and dense clouds, one vessel lost sight of the other, and that one vessel threw overboard everything that could lighten her, from the deck, because the storm was very great; and on the Capitana, seeing themselves in the greatest danger, they vowed a pilgrim-

age [echaron un Romero] to our Lady of the Rosary and the blessed Mother of Pity, for her mercy, and she favored them with a little fair-weather. And Monday, on the thirteenth of said month, they were heading towards the land, in search of the other vessel, and during the night they kept a lookout, in order not to lose sight of anything, and to search for some shelter, and to make the land.

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Cabo de Pinos, Cabrillo, 40° "and more."

Northwest Cape, Russian. (See pp. 224, 228, 233.)

This is the bold high spur of the coast mountains nearly overhanging Fort Ross Cove, in latitude 38° 31'. This gives a correction to Cabrillo and Ferrelo of, —1° 29'.

The vessels were not near enough to the coast to see the details of the shore-line.

This bold shoulder with the forests upon it was the distinguishing mark for the Russian ships when making the small harbor of Fort Ross. The massive character of the orography is well exhibited in the latest editions of the Coast Survey charts.

Cabrillo's description is good, even to the direction of the coast-line.

The Russian name "Northwest Cape" was not really applied to the cape above described, but to the comparatively low rocky point at the northwest part of the Fort Ross Cove. (See Davidson's Coast Pilot.)

Punta de Arena.

Point Arena, latitude 38° 57'.

This point lies thirty-seven miles northwest, along a straight coast-line, from the Northwest Cape at Fort Ross Cove; and Cabrillo could not have seen the point itself when he was in his latitude of Cabo de Pinos. But he could have readily made out the high mountains lying seven or eight miles southeast of Point Arena and bordering the coast. Moreover, if he sailed along the shore beyond Cabo de Pinos before the gale struck him (as they apparently got observations of the sun at noon), he may have actually seen Point Arena. As he had seen no point with such marked peculiarities it is strange he did not describe it. The long terrace land stretches out three miles from the base of the mountains and terminates in vertical cliffs from two hundred and sixty feet to forty and fifty feet in height, with whitish faces in the sunlight.

Cabrillo's Friday is an error, as shown by the context; it should be Thursday.

Baia de Pinos, Cabrillo.

La Bahía de los Pinos, Ferrelo, 39° and "more."

Ensenada de los Frayles.

The Gulf of the Farallones.

Drake's Bay, latitude 38° 00'; correction to Ferrelo, —1° 00' and "more." (See p. 214.)

The "Great Gulf" of Cabrillo may possibly be intended to embrace the bight from Point Reyes Head to Point Boneta, or even to Point San Pedro. It could not have been intended for Bodega Bay, because this has no characteristics of a great gulf, and there have been no pines upon Bodega Head, Point Tomales, or the eastern shore of the bay since its occupation in the last fifty years; nor is there any indication of such a growth previously. On the other hand, a part of the ridges and all the gulches from Mount Tamalpais are even yet forest clad. This is quite a marked feature from seaward. Moreover, the reported latitude carries the location to the Gulf of the Farallones.

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mountains very lofty, and at evening they lay to for rest; it is a coast running northwest to southeast; they perceived the land at a point which projects into the Ocean, which forms a cape, and the point is covered with trees, and it is in forty degrees.

Wednesday, the fifteenth day of the said month, they had sight of their consort, for which they gave many thanks to God, as they had considered her lost; and they came up with her and joined her at evening. They of the other ship endured more danger and risk than those of the Captain's vessel, on account of its being small and having no deck. This land where they were sailing is to appearance very good, but they saw no Indians nor smokes. There are grand Sierras covered with snow; there are many trees. At night they lowered the sails and lay to.

On the following Thursday, the sixteenth of the said month of November, at daybreak, they were upon a large gulf which was formed by a change of direction of the shore, which appeared to have a port and a river, and they went beating about this day and the night and the Friday following, until they saw that there was no river nor any shelter; and to take possession they cast anchor in forty-five fathoms. They did not dare to land on account of the high sea. This gulf is in thirty and nine degrees and more, and it is all covered with pines to the sea. They gave it the name of La Bahía de las Pinos. The following night they lay to until the next day.

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There is a Cape, projecting into the sea, very much wooded, with very high pine trees, and they called it Cabo de Pinos, and observing the Sun, they found themselves in forty degrees, and more, to the northwest,

from whence they recognized more than fifteen leagues of coast, all the land high, and the coast running from northwest southeast :

And Friday, the sixteenth, they arrived at a Great Gulf, that looked like a harbor, and they called it Pinos.

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El Cabo de San Martin. (See pp. 210, 222, 223, 235.)

This is either the northern limit of the Sierra Santa Lucia near Point Carmel or the San Martin which they made in the early part of the voyage when they were storm struck and had to run before it. The former would probably be the more likely, because on the 18th they were running from near Point Reyes all day along the coast, and passing the deep bight of Monterey Bay would make the pine-covered mountain behind Point Pinos or the higher mountains beyond Point Carmel by nightfall.

It is evident that Ferrelo runs ahead in his narrative to describe in general terms the appearance of the coast range of mountains from the Gulf of the Farallones to Cape San Martin, and then returns to take up the details. His Sierras Nevadas form the mountain range of the Peninsula of San Francisco, in whose crest-line is Loma Prieta reaching an elevation of nearly 3,000 feet, and which is about thirteen miles inside of Point Año Nuevo lying under his Snowy Cape. Mount Bache, in the same range, is in latitude $37^{\circ} 06\frac{1}{2}'$ and reaches 3,825 feet elevation. His description is good, although it would apply with greater force to the stupendous barrier of the seaward face of the Sierra Santa Lucia; he may very probably have had both mountain ranges in his mind at the time of compiling his narrative.

Las Sierras Nevadas, Ferrelo.

La Sierra de Santa Cruz.

The Peninsula of San Francisco.

Cabo de Nieve, Ferrelo, $38\frac{3}{4}^{\circ}$.

Cabo de Nieve, Cabrillo, $38\frac{3}{4}^{\circ}$.

Black Mountain, latitude $37^{\circ} 09'$.

This is the massive western spur or buttress of the San Francisco Peninsula Mountains immediately behind and almost overhanging the low Point Año Nuevo. The ships were not close enough to the coast for Cabrillo to note the details of the shore-line, but he took in the broad, bold features, and graphically describes them under the aspect of a heavy winter. I place this great shoulder of the range in latitude $37^{\circ} 09'$, whence the correction to Ferrelo and Cabrillo is, $-1^{\circ} 31'$.

Mount Bache, reaching 3,825 feet elevation, is in latitude $37^{\circ} 06\frac{1}{2}'$.

Ferrelo again runs ahead of events in his narrative in mentioning his approach to the Santa Barbara Islands and then returns and describes the coast from Cabo de Pinos (Northwest Cape at Fort Ross). (See pp. 210, 222, 223, 236.)

By plotting his course as far as practicable during the storm and his again making the coast, I fix his approach thereto south of Point Arena, at the cape he describes, but even then he must have been twenty-five miles from the coast-line.

He could not have followed the shore very closely or he would have seen the bays of Esteros, San Luis Obispo, and Point Sal. Moreover the coast was thickly populated from the San Carpofero to Point Concepcion; and from Carmel Bay northward the coast was also thickly inhabited.

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The following Saturday they were running along the coast, and they found themselves at night off El Cabo de San Martin.

All the coast they passed by this day is very bold, and there is a great swell of the sea, and the land is very lofty; there are mountains which rise to the sky and the sea beats upon them. While sailing near the land it appears as if they would fall upon the ships; they are covered with snow to the summit.

They gave them the name of las Sierras Nevadas, and the principal one forms a cape which projects into the sea, which they named Cabo de Nieve. The coast runs north-northwest and south-southeast. It does not appear that Indians inhabit this coast. This Cabo de Nieve is in thirty and eight degrees and two-thirds, and always when the wind blew from the northwest it made the weather fair and clear.

Thursday, on the twenty-third day of the month, they approached on a return course the islands of San Lucas, and one of them named la Posesion; and they ran along all the coast, point by point, from el Cabo de Pinos to them, and they found no shelter, so that of necessity they had to return to the said island, on account of having these days a very strong west-northwest wind, and the swell of the sea was very great. From Cabo de San Martin to Cabo de Pinos we saw no Indians, because of the coast being bold and without shelter and rugged; and on the southeast side of Cabo de Martin for fifteen leagues they found the country inhabited, and many smokes, for the land is good; but from el Cabo de Martin as far as to forty degrees we saw no signs of Indians.

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And on the eighteenth they were seeking for a port,

and discovered some snow covered sierras, with a cape, which projected therefrom, which they called Cabo de Nieve, in thirty and eight degrees and two-thirds, and the whole land and coast, possesses this peculiarity, that, whenever the wind blows from the northwest, the weather is all clear, without any send or anything else ; and from the thirty and seven degrees and a half, hence to the forty degrees, this coast runs northwest southeast ;

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El Cabo de San Martin, Ferrelo, $37\frac{1}{2}^{\circ}$. (See pp. 210, 222, 224, 236.)

The present Cape San Martin is in latitude $35^{\circ} 54'$, but Mount Carmel, one of the high peaks of the Sierra Santa Lucia (Ferrelo's Sierra San Martin) would probably be the first mountain he would see when approaching from the north across the Gulf of Monterey. In the clear sky of northwest weather he would have seen it when he was abreast of his Cabo de Nieve, or Point Año Nuevo. It is in latitude $36^{\circ} 22'$, rises to an elevation of 4,417 feet, and is visible at a distance of seventy-five miles. It is only eight miles inside of Point Sur.

La Isla de la Posesion, Cabrillo.

Una de las Islas de San Lucas, Cabrillo.

Isla de Posesion, Ferrelo.

La Isla de Juan Rodriguez, Ferrelo.

Ciquimuymu, Indian, Ferrelo.

La Isla de Baxos, Vizcaluo.

San Miguel Island. (See pp. 204, 206, 236.)

This is the westernmost of the Santa Barbara Islands. (For a detailed description see Davidson's Coast Pilot of California, &c.)

El Puerto de la Posesion, Cabrillo.

This is Cuyler's Harbor in latitude $34^{\circ} 03'$, already described. (See p. 236.)

The "other islands of San Lucas" is San Salvador, Ferrelo. (See p. 204.)

Limu or Limu, Indian, Ferrelo.

Santa Cruz Island, already described. (For a minute description of the island see Davidson's Coast Pilot of California, &c.)

He apparently forgets that Cabrillo named Santa Catalina Island San Salvador, and he slightly changes the spelling of the Indian name.

FERRELO.

El Cabo de San Martin is in thirty and seven degrees and a half.

While wintering in this Isla de Posesion, on the third day of January, 1543, departed from this present life Juan Rodriguez Cabrillo, Captain of the said ships, from a fall which he had on the same island at the former time when they were there, by which he broke an arm near the shoulder. He left for Captain the Chief Pilot, who was one Bartolomè Ferrelo, a native of the Levant; and he charged them much at the time of his death that they should not give up the discovery, as far as possible, of all that coast. They named the island La Isla de Juan Rodriguez. The Indians call this island Ciquimuymu, and another they call Nicalque, and the other they call Limu. In this island de la Posesion, there are two villages; the one is called Zaco (10) and the other Nimollollo. On one of the other islands there are three villages; one they call Nichochi, and another Coycoy, and the other Estocoloco. On the other island there are eight villages, which are, Miquesesquelua, Poele, Pisqueno, Pualnacatup, Patiquin, Patiquilid, Ninumu, Muoc, Pilidquay, Lilibheque.

The Indians of these islands are very poor. They are fishermen; they eat nothing but fish; they sleep on the ground; all their business and employment is to fish. In each house they say there are fifty souls. They live very swinishly; they go naked. They were in these islands from the twenty-third of November to the nineteenth of January. In all this time, which was almost two months, there were very hard wintry storms on the land and the sea. The winds which prevailed most were west-southwest and south-southwest and west-northwest. The weather was very tempestuous.

Friday, the nineteenth day of the month of January, 1543, they set sail from the island of Juan Rodriguez, which is called Ciquimuymu by the natives, to go to the mainland in search of some supplies of provisions for their voyage, and in leaving the port a heavy storm from the west-northwest struck them, which made them put into the other islands of San Lucas, and they anchored off the island of Limu, to which they gave the name of San Salvador, and they found it necessary to weigh anchor again because it had no port more under the shelter of the islands, and the wind veered around from all points, and they sailed around these islands eight days with the wind very foul, sheltering themselves under the islands from the bad weather; and on the twenty-seventh of the said month they entered the same port of the island of Juan Rodriguez where they were before. The greatest hindrance they had was because the winds were not steady, but went veering about from one point to another. Those which are the more constant are from the west-northwest and from the west-southwest.

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and because they did not find any port, they had to go to la Isla de la Posesion, which is one of the Islands of San Lucas, and they entered there Thursday, on the twenty-third of November, and because it is a good port, they repaired the small vessel, and made her staunch, as she was going to sink.

In the aforesaid port they remained, until the end of December, on account of the bad weather, with great cold and snow, even to the sea level, rain from heaven, and heavy clouds; and as the southeast storm was continuing, there was so great a surf, although in a landlocked harbor, that sometimes for three and four days, it was not possible to go on shore. Finally, Friday, on the nineteenth of January of the following year, one thousand five hundred and forty-three, with great labor they arrived at the Puerto de Sardinias,

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La Isla de San Sebastian, Ferrelo's consort. (See pp. 204, 236.)

La Isla de San Lucas, Ferrelo.

La Isla de Cleto, Vizcaino's chart.

Nicalque, Indian, Ferrelo.

Santa Rosa Island, lying between San Miguel Island and Santa Cruz Island.

He probably lost his anchor in Becher's Bay on the northeast face of the island, where he could have watered his vessel.

For minute description of the island see Davidson's Coast Pilot.

El Puerto de las Sardinias, Ferrelo.

Cicacut, Indian, Ferrelo.

The Gaviota anchorage. (See pp. 208, 210.)

In the Gaviota Pass there are evidences of large Indian Rancherías, where the Indians could retire from the coast-line in winter and thus avoid the full effects of the storms, and at the same time engage in hunting or cultivate the ground.

La Isla de San Salvador, Ferrelo.

Santa Cruz Island. (See pp. 204, 236, 238.)

If we suppose that he ran nearly south, and half way between Santa Cruz and San Nicolas, he would probably have seen the islands of San Miguel, Santa Rosa, Santa Cruz, Anacapa, Santa Catalina (with Santa Barbara in line and not distinguishable), and San Nicolas. He could not have seen San Clemente Island; Anacapa is small; and Santa Catalina would, at that distance, appear small. San Nicolas would be seen moderately small, because he would make it endwise.

When the unusual northeast wind changed and the west-northwest wind came up with the large sea always accompanying it, it is very unlikely that he was even two hundred miles to the windward of the islands. And yet we find Kohl making the unaccountable blunder of supposing that the six islands which Ferrelo saw "were doubtless the Sandwich Islands"!

El Cabo de Pinos, Ferrelo.

Already described as the mountain mass behind Fort Ross Cove. (See pp. 210, 222, 224, 236.)

This is the Punta de Arena in latitude $38^{\circ} 57'$, but he does not name it; the land trends to the northwestward from Bodega to this point, then the shore changes its direction to north-northwest.

El Cabo de Fortunas, Cahrillo, 41° .

They saw the great mountain mass which reaches a height of nearly 4,300 feet a little to the northward of

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Tuesday, the twenty-ninth of the said month of January, they departed from the island of Juan Rodriguez for the island of San Lucas, which is in the middle of the others, to take up certain anchors which they had left in a storm, not being able to raise them; and which they recovered, and took in water.

They departed from this island of San Lucas Monday, the twelfth day of the month of February, which they could not do sooner on account of the bad weather, which gave them winds and much snow. It is inhabited, and the people are like those of the other island. The Indians call it Nicalque. There are three villages on it, which are called Nicochi, Coycoy, Coloco.

This day they went to Puerto de las Sardinias, to take in wood and other things necessary for their voyage, as they were not to be obtained on those islands.

Wednesday, on the fourteenth of the said month, they departed from El Puerto de Sardinias, having taken a boat-load of wood, and they did not dare to remain longer there on account of the great swell of the ocean; they did not find so many Indians as before, nor any fishing on account of the winter; the natives eat oak acorns and other seeds and herbs of the field without cooking. From this place they proceeded to the island of San Salvador, because they were there more secure from the storms, that they might be able to make sail and run out to sea.

Sunday, the eighteen th day of the said month of February, they departed from the island of San Salvador with a moderate wind from northeast, and they ran along to the southwest, because they had been told that there were other islands toward the southwest; they were at dusk this day about twelve leagues from the island of San Salvador, and they saw six islands, some large and others small.

This day a sailor died, and the following Monday, at daybreak, they were at sea about ten leagues to the windward of the islands, and with the wind west-northwest they were standing off five days to the southwest, and after they had proceeded about one hundred leagues they found the wind more violent and the sea high;

and Thursday, the twenty-second of the said month of February, they again stood in shore to endeavor to reach Cabo de Pinos, with the wind south-southeast, which continued three days, and was increasing each day; and the Sunday following, at daybreak, they gained sight of Cabo de Pinos, and they were this day at dusk twenty leagues to windward on a coast running northwest, and southeast, and it is bold and without shelter; there was no smoke seen on the land, and they saw a point which formed the extremity of the land, which changed the coast to the northwest; in the middle of the night the wind suddenly shifted to the south-southwest, and they ran to the west-northwest until day, and in the morning the wind shifted to the west-southwest with great violence, which held on until the following Tuesday; they ran to the northwest.

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whence they left on the fourteenth of February.

And Monday, on the twenty-sixth of said month, they were at a point which makes a cape, which they called Cabo de Fortunas, on account of the many dangers which they had experienced in those days, and it is in forty and one degrees:

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Point Delgada at Shelter Cove; and continues as a bold range to the north of Cape Mendocino. They could not have seen Point Delgada because it is low and projected on the base of the coast mountains. If he saw King Peak, or the mountain behind Cape Gorda, or Mount Pierce behind Cape Mendocino, then his latitude must be assumed to have been derived from dead reckoning. Cape Mendocino is in $40^{\circ} 27'$, Cape Gorda in $40^{\circ} 13'$, but the high crest-line of the mountains runs to the south of 40° . This course from Point Arena is nearly north-north-west, true.

Vizcaino's two ships had been separated in a storm, and the crews were in a terribly bad condition from scurvy.

These are the high mountains lying eastwardly from Point Delgada, and culminating in King Peak in latitude $40^{\circ} 09'$, at an elevation of 4,265 feet.

Cabo Mendocino, Vizcaino's pilots, 41° , without observation.

Cape Mendocino, latitude $40^{\circ} 27'$.

The description and the position of the cape in relation to the foregoing mountains are good for Cape Mendocino, but I think the latitude he gives is merely a report, for they do not appear to have observed the sun, and his chart places it in $41^{\circ} 40'$. The high mountains, rising to an elevation of 3,400 feet behind the cape, might well be covered with snow if the winter was severe, as we may assume it was from the narrative.

They could not have been in $41^{\circ} 30'$, because after being driven northward by the violent southeaster for six days (to January 20) they were then only in 42° . Vizcaino's chart lays down a prominent headland in latitude $40\frac{1}{2}^{\circ}$ (obtained by bringing up the scale of degrees from Point Pinos to Point Reyes) and a marked headland in 41° . Between these two capes he has a deep receding of the shore-line to the east and northeast, with a large river emptying into the northeast part of this great bight.

I am satisfied that this apparent eastern recession of the shore-line was the low country around Humboldt Bay and Eel and Mad Rivers. The large river which he has drawn was a supposition of its existence on account of the low lying valley in that direction giving passage way to the discolored waters of Mad River and Pigeon River

Cabo Mendocino, Vizcaino's chart, $41^{\circ} 40'$.

Point St. George, in latitude $41^{\circ} 46'$.

South of Cape Mendocino Vizcaino notes the coast line as rugged, but no name appears until "Cabo Mendocino" stands abreast a cape of white cliffs in latitude $41^{\circ} 40'$, with mountains to the southward covered with snow. The shore-line from Trinidad to this cape is laid down straight, but for twenty miles it is continued to the northeast. He could not have been near the coast, on account of the heavy weather, or he would not have missed Redding Rock north of Trinidad, nor the notable cliffs of Gold Bluff in $41^{\circ} 25'$. And especially does he omit any sign of the rocky islets of the Dragon Rocks forming St. George's Reef in $41^{\circ} 50'$. As there is a marked recession of the high land behind Point St. George on account of large lakes and several streams making in from the distant mountains, he may have

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Tuesday, the twenty-seventh of the said month, the wind veered to the south-southwest, which held on all day; they ran to the west-northwest with the foresails lowered, for it blew violently; at the approach of night the wind shifted to the west; they ran all night to the south with but little sail; there was a high sea which broke over them.

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"The ship progressed very slowly, but little by little, on Sunday the twelfth day of January [1603] the flag-ship came in sight of some very high mountains of a reddish color, and fourteen leagues farther to the northwest a chopped off cape came upon the sea, and near to it some snowy mountains; and the pilots judged that this should be the Cape Mendocino, which is [reported to be] in forty and one degrees of latitude.

"The day following, which reckons itself the thirteenth of January, a southeast wind came up with the greatest fury, and with it a fine sleet that appeared like snow. This wind raised such a tremendous sea, that every moment it appeared as if the ship must founder and all be lost; and to avoid its fury, and not to reach a higher latitude, because they feared the excessive cold and the increased violence of the storms in the higher latitudes, and it being the depth of winter, it was deemed the best to lay to until the wind was favorable and then make sail for Acapulco. * * *

"With this decision came a little strength to mitigate the sufferings of the people, for they now thought they would be able to hold out some days longer than if they went farther north.

"And on the fourteenth of the said month the weather cleared a little that day and the sun shone out, so that the pilots were able to observe, and they found themselves near to this Cabo Mendocino, and the currents had carried them even this far in two days. Almost immediately the sky was obscured that day with a thick fog, and dark, and a cold drizzle which they had not expected; and as the wind was still at southeast the ship lay to the sea with the wind abeam.

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supposed the shore receded more to the northeast than it really does.

El Cabo Blanco de San Sebastian.

Vizcaino does not state positively that this cape is in his observed latitude of 42° , which, by the way, is the only latitude he mentions in his narrative. His chart lays down a cape of white cliffs in $41^{\circ} 40'$, where he places Cape Mendocino. There are the white cliffs of the Gold Bluffs in $41^{\circ} 25'$, and the notable white sand dunes just north of Mack's Arch. These sand dunes are three miles in length and rise to 170 feet elevation and are a marked feature in the shore line. They lie in latitude $42^{\circ} 14'$ and the verdure-clad mountains behind them rise to 1,500 feet and are pine covered on the upper slopes and crest line.

In latitude $42^{\circ} 05'$ the Coast Survey has named a bold headland, seen from Pelican Bay, Cape Ferrele, and in latitude $42^{\circ} 18'$ a second notable head has been named Cape Sebastian, but without other intention than commemorating these names.

"A Bad bay," Drake 42° .

Chetko Bay, latitude $42^{\circ} 01'$.

This is an open roadstead exposed to the full force of the southerly swell. It is at the southern termination of fifty miles of high rugged coast coming from Port Orford to the Chetko River. In striking the coast Drake could find no anchorage between Point Orford and this place, and none other near this except Crescent City Harbor, seventeen miles southward, and which he would hardly approach when the dangerous Dragon Rocks or St. George's Reef guarded the shore. Chetko anchorage is but slightly protected even from the northwest swell by the long rounding head of Cape Ferrele, five or six miles to the west-northwest. The shore line to the westward is bound by rocks, and there are several sunken rocks with breaks upon them in the anchorage. We know from experience that it is not a comfortable anchorage; and it may very well be accepted as the anchoring place of Drake in latitude 42° .

Trinidad Head, latitude $41^{\circ} 03'$.

Redding Rock, latitude $41^{\circ} 22'$.

The tender was then off Trinidad Head in latitude $41^{\circ} 03'$, and supposing that they had observed the latitude correctly, he could have found no protection anywhere in the vicinity of Cape Mendocino in $40^{\circ} 27'$, or of Trinidad Head.

In their demoralized condition they were anxious to get shelter, and the first object they could find would be the Redding Rock in latitude $41^{\circ} 22'$, only five miles off a nearly straight coast-line. It is only eighty-three feet high and of limited extent, but sufficient to give a lee for such a small vessel; moreover it is evident that the storm was not very severe. This protection was his only refuge, and his reference to Cape Mendocino was merely to the nearest known landfall.

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even to the nineteenth of Jannary, on the evening of San Fabian and Sebastian, Martyrs. This day the wind came from the northwest and cleared the weather, and observing the altitude the pilots found themselves in forty and two degrees of latitude; and the coast has a Cabo Blanco, of white land, joined to some high snow covered mountains, and it is called *El Cabo Blanco de San Sebastian*.

"The 5 day of June, wee were forced by contrary windes to runne in with the shoare, which we then first deseried, and to cast anchor in a bad bay, the best roade we could for the present meete with, where wee were not without some danger by reason of the many extreme gusts and flawes that beate vpon vs, which if they ceased and were still at any time, immediately upon their intermission their followed most uile thicke, and stinking fogges, against which the sea prenailed nothing, till the gusts of wind againe remoued them, which brought with them such extremity and violence when they came, that there was no dealing or resisting against them."

"In this place was no abiding for vs; and to go further north, the extremity of the cold (which had now vtterly discouraged our men) would not permit vs; and the winds directly beat against vs, hauing once gotten vs vnder sayle againe, commanded vs to the southward whether we would or no."

"World Encompassed," p. 115.

"With this wind the sick sailors are reanimated to assist those who are well, and with great labor they raise the sails, and set them to the wind, with the desire to come in sight of the land in search of the tender, and for reconnoitering the line of the coast.

"The Fragata, as I have said before, found herself without the flag-ship; believing she was going before, went in her following, and on the lookout for her; and being in latitude forty and one degrees, the southeast wind, which I mentioned, struck the flag-ship, and not being able to withstand the sea on her beam, she ran with the wind, so as to reach the shelter of the mainland; and very near to Cape Mendocino, under protection of a large rocky islet, she remained at anchor until the wind had passed; and after the wind had lulled, they continued their navigation, being close to the land;

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Cabo Blanco, Vizcaino (Flores), 43° .

Cape Orford, or Cape Blanco, in latitude $42^{\circ} 51'$.

North of this latitude the coast does not run to the northwest; on the contrary it trends nearly north (magnetic). Yet we may suppose that in running along the coast and making the cape with the northwest wind with its dangerous reef before him he fell back upon his instructions to return.

This cape has a water-worn face that shows whitish in the afternoon sun, but there is no river near it which he would dare to enter. In May, 1886, the cliffs around Cape Orford were mostly covered with verdure, and only small spaces showed whitish.

Taking his narrative as accurately descriptive, we may assume that his Cabo Blanco was the white sand dune line (just south of Cape Sebastian) in latitude $42^{\circ} 14'$, and already described. Hence the coast runs to the west of north to Cape Orford. After passing these bright dunes and keeping the coast-line moderately close aboard he would open the well marked valley of the Rogue River in latitude $42^{\circ} 25'$. This stream has a tolerably wide mouth and has been entered by vessels; but the current is very strong and there is a short breaking bar off the entrance; while outside of it there is a very dangerous reef which he would certainly avoid.

The Chetko River and Smith's River are in the deep bight of Pelican Bay under 42° , and he would hardly have run in there from around the Dragon Rocks. The Chetko mouth is closed by a gravel barrier in dry seasons.

On the 23th of February, 1543, they were out of sight of land, and probably in latitude $41\frac{1}{2}^{\circ}$, allowing a correction of one and a half degrees to his reported latitude.

"Y no tener puente." In Spanish, puente does not mean exactly "deck" when applied to a ship; it means the place where the batteries of a ship are situated.

They were probably in latitude $42^{\circ} 30'$ abreast of Rogue River and working their way back to El Cabo de Pinos; but they must have been seventy miles broad off the coast, which was therefore not visible. The logs were brought down the flooded rivers of this part of the coast; and they always have been a feature off the coast north of Mendocino.

The Wednesday following, the twenty-eighth day of the said month, at daybreak, the wind shifted directly to the southwest, and it did not blow hard. This day they observed the latitude in forty-three degrees. Towards night the wind freshened and shifted to the south-southwest. They ran this night to the west-northwest with much difficulty, and Thursday at daybreak the wind shifted to the southwest with great fury, and the seas came from many parts, which harassed them much, and broke over the ships, which, not having the decks [as in a man-of-war], if God should not succor them, they could not escape, and not being able to lay to, of necessity they scudded northeast towards the land; and now, holding themselves for lost, they commended themselves to our Lady of Guadalupe, and made their promises [or offerings], and ran thus until three o'clock in the afternoon with much fear and labor, for they saw they were going to be lost, and already they perceived many signs of the land which was near, as small birds, and logs very fresh, which had floated from some rivers, although from the dark and cloudy weather the land did not appear. At this hour the Mother of God succored them with the grace of her Son, and there came a very violent rainstorm from the north, which made them send all that night and the following day until sunset to the south, with the foresails

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and on the nineteenth of January, the pilot Antonio Flores, who was in the tender, found himself in latitude forty and three degrees, where the land makes a cape, or point, which was named Cabo Blanco, and from which the coast begins to run to the northwest, and very close to it, he found a River of large volume, and deep, that upon its banks it had very large Ashes, Willows, Elders, and other trees of Castile; and wishing to enter it, the currents would not permit him."

[And thereupon Ensign Alferez Martín Aguilar, commander of the tender, and the pilot Antonio Flores, finding they were in a latitude beyond that mentioned in the Instructions of the Viceroy, that there was no appearance of the flag-ship, and that the crew were very sickly, agreed to return to Acapulco.]

from the twenty-seventh of February, until Thursday, the first of March, they ran the greatest danger, and still more on the night of the same day, and when it became daylight, they gave thanks to Our Lady, and to Her Blessed Son, for having saved them from so dark and terrible a night, because the storm is not felt so much in the daytime: and when the weather cleared up, on the first of March, they observed the sun, in forty and four degrees, with so much cold that they were freezing,

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On Saturday, March 3, 1543, they were approaching the coast south of Point Arena, but Ferrelo goes back in his narrative when he was north of Cape Mendocino. The large fresh water streams breaking through the coast line north of that Cape, and up to 42° are: Eel River in latitude $40^{\circ} 38'$, Humboldt Bay in latitude $40^{\circ} 46'$, Mad River in $40^{\circ} 53'$, Pigeon River in 41° , the Klamath River in $41^{\circ} 34'$, Crescent City in $41^{\circ} 44'$, Smith's River in $41^{\circ} 54'$, the Winchuk in $41^{\circ} 58'$, the Chetko River in $42^{\circ} 02'$, Pistol River in $42^{\circ} 15'$, and the Rogue River in $42^{\circ} 24'$. All of these bring down winter freshets of discolored water abounding in the uprooted trees from their banks.

El Cabo de Pinos, in latitude $38^{\circ} 30'$.

The mountain mass overhanging Fort Ross, and already described (pp. 222, 224, 228). I should judge the vessel to have been twenty five miles off the land and even somewhat to the southward of the cape. From the highest point attained, in latitude $42\frac{1}{2}^{\circ}$, to this position abreast Cabo de Pinos the vessel ran two hundred and seventy-five miles between the morning of March 1 and the evening of March 3, giving about five miles per hour. If they continued on their east-southeast course they should have seen Point Reyes and the Farallones off the Golden Gate.

La Isla de Juan Rodriguez, Ferrelo.

San Miguel Island and Cuyler's Harbor. (See pp. 206, 226.)

It broke on the reef which is in the middle of the harbor, and he was unacquainted with the dangers of Wilson's Reef off the approaches and with the best place to anchor under the western shore of the harbor. (See description under Isla de San Sebastian).

Puerto de la Isla de San Salvador, Ferrelo.

Smugglers' Cove.

Santa Cruz Island. (See p. 204.)

Ferrelo's port is the Smugglers' Cove on the short south-east side of Santa Cruz Island.

Isla de San Sebastian, Ferrelo's consort.

Santa Rosa Island. (See p. 206.)

This is the first time the Cabrillo narrative has mentioned the Island of San Sebastian. It specifies the south-southeast side of the island where he sought shelter. As the Fragata was off Cuyler's Harbor in the evening (about twelve hours after the Capitana had passed it) with a heavy blow from the northwest, he very naturally was afraid to approach the old anchorage because he evidently passed through the breakers and dangers of Wilson's Reef, over one mile in extent, that lie three miles off the

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furled; and because there was a high sea from the south, it broke over them each time at the bow, and swept over them as if over a rock, and the wind shifted to the northwest and the north-northwest with great fury, so that it made them run until Saturday, the third of March to the southeast, and to the east-southeast, with such a high sea that it made them cry out without reserve that if God and His blessed Mother did not miraculously save them they could not escape. Saturday at noon the wind moderated and remained at the northwest, for which they gave many thanks to our Lord. They suffered also in provisions, as they had only biscuit, and that damaged.

It appeared to them that there was a very large river, of which they had much indication, between forty and one degrees and forty and three, for they saw many signs of it.

This day, in the evening, they recognized the Cabo de Pinos, and on account of the high sea which prevailed they could do no less than run along the coast on the return course in search of a shelter. They experienced much cold.

Monday, on the fifth day of the said month of March, 1543, at dawn, they found themselves off the island of Juan Rodriguez, and they did not dare to enter the port on account of the great storm which prevailed, which broke the sea at the entrance of the harbor in fifteen fathoms; the wind was north-northwest; the entrance

is narrow; they ran under the protection of the Isla de San Salvador on the southeast side;

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and Saturday, on the third, they again turned round to examine el Cabo de Pinos, but owing to the strong wind they were forced to go

to la Isla de la Posesion, where they arrived on the fifth, and on account of the heavy breakers at the mouth of the harbor

they sought protection under the Isla de San Sebastian, under the side presented to the south-southeast,

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northwest point of the island of San Miguel; and probably continued through the San Miguel Passage seeking a lee under the shores of Santa Rosa Island; and found protection and anchorage between South Point and East Point under the shore facing to the south-southeast. The summit of Santa Rosa Island is in latitude $33^{\circ} 57'$, and rises to 1,500 feet elevation.

He must have remained here fourteen days while the other vessel was three days in Smugglers' Cove under Santa Cruz, and then searched for her consort at the Puerto de las Canoas, again at Smugglers' Cove, at San Diego, Port Quentin, and finally at the Island of Cerros.

There are four open anchorages on the south side of Santa Cruz Island and Smugglers' Cove at the short southeast side. To reach this anchorage he must have sailed along the north shore of San Miguel Island, Santa Rosa Island, and Santa Cruz Island, and rounded the easternmost point of the latter to find shelter, from the northwest wind, at Smugglers' Cove.

He previously says he observed the sun in forty-four degrees, *i. e.*, in $42\frac{1}{2}^{\circ}$ latitude, after applying the probable correction.

San Buenaventura (El Pueblo de las Canoas) is only nineteen miles north-northeast from Smugglers' Cove. (See p. 204.)

Puerto de San Miguel.
San Diego Bay. (See pp. 192, 194.)

La Bahia de San Mateo.
Todos Santos Bay. (See p. 190.)

El Puerto de la Posesion.
Port San Quentin, Lower California. (See p. 184.)

La Isla de Cedros.
Cerros Island. (See p. 174.)

This ship, the *Fragata*, did not enter the port on Juan Rodriguez Island (Cnyler Harbor on San Miguel), but sought shelter under the south-southeast side of the Island of San Sebastian (Santa Rosa Island). (See p. 236 for

FERRELO.

and the night before coming with a violent tempest, with only two small foresails, the other ship disappeared, so that they suspected that the sea had swallowed it up, and they could not discover it any more, even after day-break;

they believe they must have been in forty-four degrees when the last storm overtook them and compelled them to run to leeward.

Thursday, the eighth of the said month, they departed from the island of San Salvador, to stand in for the mainland in search of the other ship, and they proceeded to Pueblo de las Canoas and did not obtain news of the other ship; and here they took four Indians.

The Friday following, on the ninth of the said month, they departed from Pueblo de las Canoas and proceeded to the island of San Salvador and found no signs of their consort.

Sunday, the eleventh of the said month, they came near the Puerto de San Miguel, neither did they find here their consort nor any news of her; here they waited six days; here they took two boys to carry to New Spain for interpreters, and left certain signals in case the other ship should approach.

Saturday, the seventeenth of the said month, they departed from the said Puerto de San Miguel; the following Sunday they arrived off the Bahia de San Mateo and found no signs of the other ship.

Sunday, the eighteenth of the said month, in the evening, they departed from this bay of San Mateo, and the Wednesday following, on the twenty-first of the said month, they arrived at Puerto de la Posesion, and still obtained no news of their consort; they waited two days without entering the harbor, for they did not dare to enter it on account of the heavy northwest wind which blew, and, as they parted their cable, of necessity they got under way.

Friday, on the twenty-third of the said month, they departed from Puerto de la Posesion, and the following Saturday at midnight they arrived off Isla de Cedros, and being there the following Monday, the twenty-sixth of the said month, arrived the other ship off Isla de Cedros, at which they rejoiced much and gave many thanks to God;

this ship passed by La Isla de Juan Rodriguez, at night, passing through some breakers so that they thought they must be lost, and the mariners promised to go in procession naked to her church and our Lady delivered them.

CABRILLO.

ULLOA AND VIZCAÍNO.

and that night [of the great storm] the flag-ship disappeared; and in five days they ran two hundred leagues, with reefed foresail, and there was nothing more to eat, but rotten biscuit, and they dealt out one pound per ration.

Thursday, on the eighth of the said month, they departed from El Puerto de San Sebastian, in search of the other vessel, and the whole crew made their demands that they should return to New Spain, as we had nothing that we could eat; and because this was in reason, they ordered the return, searching for their consort.

and they found her by chance at the Isla de Cedros, on the twenty-sixth of said month:

DAVIDSON.

mention of the dangers off the northwest shore of San Miguel Island.)

The ships arrive at El Puerto de Navidad, in New Spain, April 14, 1543.

"de letra del tiempo," i. e., in an old manuscript of that period.

FERRELO.

On Monday, the second day of the month of April, they departed from the Isla de Cedros on their return to New Spain, because they did not have a supply of provisions to renew their attempt to discover the coast. They arrived in El Puerto de Navidad Saturday, the fourteenth day the said month of April [1543].

Came as Captain of the ships, Bartolomé Ferrelo, Chief Pilot of the said ships, in default of Juan Rodríguez Cabrillo, who died in Isla de la Posesion. The men came in the said ships.

(¹) So in the original, without doubt by equivocation.

(²) He speaks of the port where they anchored in twenty-eight degrees.

(³) An equal blank in the original.

Found without the name of the author, in the general archives of the Indias of Seville, in the writing of the time, among the papers brought from Simancas. File nine of Descriptions and Populations.

Examined and approved.

MARTIN FERNANDEZ DE NAVARRETE.

There is another copy of this narrative in the collection of Muñoz, Vol. XXXVI, in which he inserts after his certificate of approval: "At the head and on the cover of this narrative occurs three times, De Juan Paez."

The differences which are noticed between the present narrative and that one are: (¹) 3° and $\frac{3}{2}$; (²) Nor nordeste sudueste; (³) The last two names are united thus, Quamngua; (⁷) Anacoac; (⁸) Caacac; (⁹) Xuca; (¹⁰) Caco.

CABRILLO.

ULLOA AND VIZCAÏNO.

and Saturday, on the fourteenth of April, they arrived at the Puerto de Navidad, of the return voyage, sadness, because to have died in it their Captain Juan Rodriguez Cabrillo, of infirmity, a good man, and very well versed in navigation; and for that of this coast these sailors said that large ships of two hundred tons are necessary, very fast, and well provided with sails, rigging, and cables, and that the sails be from Castile, because those from this country, split every moment, and that they should take a large supply of provisions: and that no Indians should go, because in the voyage they are of no use, and eat the provisions; and finally these vessels went as far as the forty-four degrees.

The landfalls of Cabrillo (C.) and Ferrelo (F.), with their names by Ulloa (U.),

No.	Dates, 1542, 1543.	Name of place by Cabrillo and Ferrelo.	Latitude by Cabrillo and Ferrelo.	Names by Ulloa, Drake, or Vizcaíno.
1	{ June 27, 1542... } { Apr. 14, 1543... }	El Puerto de Navidad.....	C., F.....	El Puerto de la Navidad, V.....
2	June 29, 1542....	El Cabo de Corrientes	20½°, C.....	El Cabo de Corrientes, V.....
3	July 2, 1542.....	La Punta de California	24° "and more," C.....	
4	.....	El Puerto del Marques del Valle.....	do	La Bahía de Santa Cruz, U.....
		El Puerto de la Cruz.....	do	
5	July 6, 1542.....	El Puerto de San Lucas.....	C., F.....	La Bahía de San Bernabè, V.....
6	July 8, 1542	El Puerto de la Trinidad.....	25°, F.....	La Bahía de San Abad, U.; La Bahía de Santa Marina, V.
7	July 8, 1542	La Punta de la Trinidad	25°, C., F.....	
8	July 8, 1542	Una Isla.....	F.....	
9	July 13, 1542	El Puerto de San Pedro.....	25½°, F.....	El Puerto de la Magdalena, V.....
10	.....	La Bahía de San Martín.....	F.....	La Bahía de Santa Marta, V.....
11	July —, 1542	Una Gran Ensenada	26°, F.....	
12	July 19, 1542.....	El Puerto de la Magdalena.....	27°, C., F.....	
13	July —, 1542.....	La Punta de Santa Catalina.....		
14	July 25, 1542.....	El Puerto de Santiago	27½°, F.....	La Bahía de las Ballenas, V.....
15	July —, 1542.....	Habre Ojo.....	27½°, F.....	Abreojos, V.'s chart
16	July —, 1542.....	Punta y Puerto de Santa Ana ..	28°, F.....	
17	July —, 1542.....	Una Isleta obra de una legua de Tierra.	28°, F.....	La Isla de San Roque, U., V.....
18	July 27, 1542.....	El Puerto Fondo.....	F.....	
19	July 31, 1542.....	[Anchorage]	F.....	
20	Aug. 1, 1542.....	El Puerto de San Pedro Vincula.	28½°, "and more," F.....	El Puerto de San Bartolomé, V.....
21	Aug. 2, 1542.....	La Isla de San Esteban	F.....	La Isla de Natividad de Nuestra Señora, V.
22	Aug. 2, 1542.....	Una Ensenada Grande	F.....	
23	{ Aug. 5, 1542... } { Mar. 23, 1543... }	La Isla de Cedros.....	29°, F.....	{ La Isla de los Cedros, U.; La Isla } de Cerros, V.
24	Aug. 11, 1542.....	El Puerto de Santa Clara	30°, "scant," F.....	La Bahía de San Hipólito, V.....
25	Aug. 15, 1542.....	La Punta del Mal Abrijo	30½°, F.....	
26	Aug. 19, 1542.....	La Isla de San Bernardo	30½°, F.....	La Isla de San Gerónimo, V.....
27	Aug. 20, 1542.....	El Cabo del Engaño	31°, C.....	El Cabo del Engaño, 30°, U.....
		La Punta del Engaño	31°, F.....	do
28	{ Aug. 21, 1542... } { Mar. 21, 1543... }	El Puerto de la Posesion	31½°, F.....	La Bahía de las Virgines, V.....

Drake (D.), and Vizcaino (V.), and the present names and latitudes.

Present name of the place.	Latitude.	Correction to C., F., or D.	Remarks.	No.
Port Navidad.....	19 13			1
Cape Corrientes	20 25	— 05'	It is more than probable that Cabrillo assumed the latitude as given by previous navigators.	2
Cape Pulmo	23 23	— 37' "and more," C.		3
Anchorage under Cape Pulmo....	23 23	— 37' "and more," C.		4
San Lucas Bay	22 52		Cabrillo did not observe the latitude. "They say it is in latitude 23°, " F.	5
Santa Marina Bay	24 20	— 40', F.		6
Cape Tosco.....	24 17	— 43', C., F.	The SE. point of Santa Margarita Island....	7
Santa Margarita Island.....	24 17		The island is 22 miles long.....	8
Magdalena Bay	24 32	— 58', F.		9
Santa Maria Bay	21 44			10
			There is no gulf; but the lowland north of Cape Lazaro slightly recedes, and would mislead a navigator in a small vessel in the offing.	11
Pequeña Bay and Point.....	26 14	— 46' C., F.	Ferrelo says: "It is 40 leagues from the Bay of San Martin to this coast."	12
San Domingo Point and Anchorage.	26 19			13
Ballenas Bay	26 45	— 45' F.		14
Abreojos Rocks	26 46	— 44' F.	A dangerous reef of visible and sunken rocks.	15
Asuncion Point and Anchorage..	27 07	— 53' F.		16
Island of San Roque	27 09	— 51' F.	Ulloa saw the two islands, Asuncion and San Roque.	17
Table-Head Cove, or San Pablo Bay.	27 11			18
Bay of San Cristoval.....				19
Port San Bartolomé.....	27 39	— 51' "and more," F.		20
Natividad Island	27 53		The Afégua, or Bird Island of Father Taraval, 1734.	21
Sebastian Vizcaino Bay	27 45 to 28 35		This is the Gulf of San Xavier, of Father Taraval. It is 50 by 60 miles in extent.	22
Cerros Island.....	28 02	— 58' F.	{ They anchored under the south shore. This is the Amalgua, or Fog Island, of Father Taraval, 1734. }	23
La Playa Maria Bay.....	28 55	— 65' "scant," F.	They anchored here.....	24
Point Canoas.....	29 25	— 65' F.	do	25
San Gerónimo Island.....	29 48	— 42' F.	do	26
Point Baja	29 56	— 64' C.		27
do	29 56	— 64' F.		
Port San Quentin.....	30 24	— 66' F.		28

The landfalls of Cabrillo (C.) and Ferrelo (F.), with their names by Ulloa (U.),

No.	Dates, 1542, 1543.	Name of place by Cabrillo and Ferrelo.	Latitude by Cabrillo and Ferrelo.	Names by Ulloa, Drake, or Vizcaino.
29	Aug. 30, 1542.....	La Isla de San Augustin.....	F.....	La Isla de Cenizas, V. La Isla de San Hilario, V.
30	Sept. 4, 1542.....	[Anchorage, 7 leagues from San Augustin.]	F.....	
31	Sept. 8, 1542.....	El Cabo de San Martin.....	32½°, F.....	
32	Sept. 11, 1542.....	El Cabo de la Cruz.....	33°, C.....	
	Sept. 11, 1542.....	El Cabo de Cruz.....	33°, F.....	
33	Sept. 11, 1542.....	Una Isleta.....	F.....	
34	{ Sept. 17, 1542. } { Mar. 18, 1543. }	El Puerto de San Mateo.....	33½°, F.....	La Eusenada de Todos Santos, V. {
35	Sept. 26, 27, 1542.	Las Islas Desiertas.....	34°, F.....	Las Islas de los Coronados, V.; Las Islas de San Martin, V.'s chart.
36	{ Sept. 28, 1542. } { Mar. 11, 1543. }	El Puerto de San Miguel.....	34½°, F.....	{ El Puerto de San Diego, V.; El Puerto Bueno de San Diego, V.'s chart. }
37	Oct. 7, 1542.....	La Isla de San Salvador.....	F.....	La Isla de Santa Cathalina, V.....
38	Oct. 7, 1542.....	La Isla de la Vittoria.....	F.....	
39	Oct. 8, 1542.....	La Bahia de las Fumos.....	35°, F.....	
		La Bahia de los Fuegos.....	F.....	
40	Oct. 9, 1542.....	[Anchorage].....	F.....	
	{ Oct. 10, 1542. }	Los Pueblos de las Canoas.....	35½°, C.....	
41	{ Mar. 8, 1543. }	El Pueblo de las Canoas.....	35½°, F.....	
42	Oct. 13, 1542.....	[Anchorage].....	F.....	
43	Oct. 14, 1542.....	[Anchorage].....	F.....	
44	Oct. 15, 1542.....	[Anchorage].....	F.....	
45	Oct. 16, 1542.....	[Anchorage].....	F.....	
46	Oct. 17, 1542.....	[Anchorage].....	F.....	
47	Nov. 2-6, 1542. {	El Pueblo de las Sardinas.....	C.....	}.....{
		Los Pueblos de las Sardinas.....	F.....	
	Feb. 12-14, 1543..	El Puerte de las Sardinas.....	35¾°, F.....	
48	Nov. 1, 1542.....	El Puerto de Todos Santos.....	F.....	
49	.....	El Pueblo de Xexo.....	F.....	
50	Oct. 18, 1542..... {	El Cabo de la Galera.....	34½°, C.....	}.....{
		El Cabo de Galera.....	36° "and more," F.....	
51	Oct. 15, 1542.....	La Isla de San Lucas.....	F.....	
52	Oct. 18, 1542.....	Las Islas de San Lucas.....	C., F.....	
53	Oct. 25, 1542.....	La Isla de la Posesion.....	C., F.....	La Isla de Baxos, V.....
	Dec. —, 1542.....	La Isla de Posesion.....	F.....	
54	Dec. —, 1542.....	Una de las Islas de San Lucas..	C.....	

Drake (D.), and Viscaino (V.), and the present names and latitudes—Continued.

Present name of the place.	Latitude.	Correction to C., F., or D.	Remarks.	No.
San Martin Island	30 29			29
San Ramon Bay	30 49			30
Point Santo Tomas, or Cape San Tomas.	31 33	— 57' F	The anchorage under the cape.....	31
Grajero Point, or Banda Point...	31 45	— 75' C	Distance from Cape San Martin, 4 leagues..	32
.....do	31 45	— 75' F		
The Todos Santos Islands	31 48			33
The Ensenada in Todos Santos } Bay. }	31 51	— 89' F	{ Anchorage in the northeast part of Todos } Santos Bay. }	34
Los Coronados Islands.....	32 25	— 95' F		35
San Diego Bay	32 40	— 100' F	{ He has one of the largest errors in the } best-known port. }	36
Santa Catalina Island	33 27		At the great depression across the island...	37
San Clemente Island	32 49		At the southeast head	38
Santa Monica Bay	34 00	— 60' F		39
.....do				
The Anchorage off Laguna Mugu.	34 05			40
San Buenaventura	34 17	— 63' C		41
.....do	34 17	— 63' F		
Anchorage off "the Rincon"	34 22			42
Anchorage off "the Carpinteria"	34 24		A few miles east of Santa Barbara.....	43
Anchorage 4 or 5 miles west of Goleta Point.	34 25			44
Anchorage off the Cañada del Refugio.	34 27			45
Anchorage off Gaviota Pass	34 27			46
The Indian Villages at Gaviota Pass. }	34 28		Ferrelo says the Indian name was Cicaeut..	47
Anchorage off Gaviota Pass.	34 27	— 73' F		
Anchorage off El Coxo.....	34 28		There are two Coxos. The Coxo Viejo is one mile east of the usual anchorage El Coxo.	48
Indian Village at El Coxo.....	34 29			49
Point Concepcion, or Point Con- ception. }	34 27	— 123' C	{ La Punta de la Concepcion of recent Span- }	50
	34 27	— 93' "and more," F.	{ ish navigators. }	
The three islands, Santa Cruz, Santa Rosa, and San Miguel.			They overlap each other, and were seen as one great island.	51
San Miguel, and then Santa Cruz and Santa Rosa as one.			One large—Santa Cruz and Santa Rosa—and one small, which was San Miguel.	52
San Miguel Island	34 03		Ferrelo says the Indian name was Ciqui- mnymu.	53
.....do				
.....do				54

The landfalls of Cabrillo (C.) and Ferrelo (F.), with their names by Ulloa (U.),

No.	Dates, 1542, 1543	Name of place by Cabrillo and Ferrelo.	Latitude by Cabrillo and Ferrelo.	Names by Ulloa, Drake, or Vicensino.
55	{ Jan. 3, 1543... } { Mar. 5, 1543... }	La Isla de Juan Rodriguez.....	F.....	.....
56	Oct. 25, 1542.....	El Puerto de la Posesion	C., F.....	.....
57	Mar. 5, 1543.....	[Dangers].....	F.'s consort.....	.....
58	Jan. 29, 1543.....	La Isla de San Lucas	F.....	La Isla de Cleto, V.....
59	Mar. 5, 1543.....	La Isla de San Sebastian.....	F.'s consort.....	.....
60	{ Jan. 19, 1543... } { Feb. 14, 1543... }	La Isla de San Salvador	F.....	La Isla de San Ambrosio, V.....
61	Nov. 11, 1542.....	El Rio de Nuestra Señera	C.....	.....
62	Nov. 11, 1542.....	Las Sierras de San Martin	37½°, C., F.....	La Sierra de Santa Lucia, V.....
63	Nov. 11, 1542.....	El Cabo de San Martin	35°, F.....	La Punta de Pinos, V.....
64	Nov. 11, 18, 1542.....	El Cabo de San Martin	37½°, F.....	.....
65	Nov. 18, 1542.....	El Cabo de Nieve.....	28¾°, C., F.....	.....
66	Nov. 18, 1542.....	(De las Sierras Nevadas)	F.....	.....
67	{ Nov. 16, 1542.....	La Bahia de Pinos	C.....	Portus Novæ Albionis, 35°, D.....
	{ Nov. 16, 1542.....	La Bahía de los Pinos.....	39° "and more," F....	El Puerto de San Francisco, V.....
68	{ Nov. 14, 1542... }	El Cabo de Pinos	40° "and more," C....	.....
	{ Feb. 25, 1543... }	El Cabo de Pinos	40°, F.....	.....
	{ Mar. 3, 1543... }	El Cabo de Pinos	40°, F.....	.....
69	Feb. 25, 1543.....	A point, &c	F.....	.....
70	Feb. 26, 1543.....	El Cabo de Fortunas.....	41°, C.....	.....

Drake (D.), and Vizcaino (V.), and the present names and latitudes—Continued.

Present name of the place.	Latitude.	Correction to C., F., or D.	Remarks.	No.
San Miguel Island	34 01		{ So named by Ferrelo to commemorate Ca- brillo's death on the island. }	55
Cuyler's Harbor	34 03		Cabrillo and Ferrelo wintered here in 1542- 1543; it is on the north shore of San Miguel Island.	56
Wilson Rock, &c.	34 06½		The rocks and reefs off the northwest shores of San Miguel Island.	57
Santa Rosa Island	33 57		Ferrelo says the Indian name was Nicalque.	58
do				59
Santa Cruz Island	34 02		{ Ferrelo says the Indian name of the island was Limu or Limun. }	60
La Purisima, or Santa Ynez River.	34 42		Cabrillo and Ferrelo did not see it. They learned of its existence north of Point Concepcion from Indian information when in the Santa Barbara Channel.	61
Sierra Santa Lucia	36 03	—87' C., F.	This mountain range is 50 miles long and overhangs the coast line. The culminat- ing point is Mount Santa Lucia, 6,000 feet elevation and 12 miles inside the shore.	62
Point Pinos	36 32	—88' F.		63
The Twin Peaks.	36 03	—87' F.	The height is 5,100 feet, and the distance 3½ miles inland.	64
Black Mountain	37 09	—91' F.	The mountain mass 13 miles behind Point Año Nuevo.	65
The Santa Cruz Mountains			Embracing Black Mountain.	66
Anchorage in Drake's Bay.	38 00	—60' D.	The northern part of the Gulf of the Faral- lones.	67
Drake's Bay, or the Gulf of the Farallones.	38 00	—60' F.	"A great gulf," Cabrillo (Una Eusenada Grande.)	
The Northwest Cape.	38 31	—89' "and more." C.	{ The mountain mass just east of Fort Ross anchorage, and reaching 2,200 feet ele- vation. }	68
do	38 31	—89' F.		
Point Arena	38 57		La Punta de Arena of later Spanish naviga- tors.	69
King Peak, behind Punta Del- gada.	40 00	—60' C.	The mountain mass northward of Shelter Cove, with King Peak only 10 miles in- land and 4,235 feet elevation, as the cul- minating point.	70

INDEX TO APPENDIX NO. 7--1886.

PREFATORY NOTE.

In consulting this index and the paper to which it relates, it will be of much advantage to refer to the map (Illustration No. 18) which Assistant Davidson has prepared to show the landfalls of Cabrillo and Ferrello on the Pacific coast.

The several items of nomenclature and other references, embracing all appearing in the original paper, are herein indexed in groups, under the following headings, for convenience in collating the descriptions; but for a condensed statement of the names and positions of the places mentioned by Cabrillo and Ferrello, and which have been identified by Assistant Davidson, see his table, pp. 242-247.

AUTHORITIES AND PUBLICATIONS CONSULTED OR REFERRED TO.

DISCOVERERS AND EXPLORERS.

HARBORS (PORTS) AND ANCHORAGES, BAYS, CHANNELS, COVES, GULFS, LAGOONS, STRAITS.

HEADLANDS: CAPES, POINTS, BLUFFS.

ISLANDS, REEFS, AND ROCKS.

MOUNTAINS AND MOUNTAIN RANGES (SIERRAS), TABLE-LANDS (MESAS).

RIVERS AND STREAMS.

SETTLEMENTS: INDIAN VILLAGES (PUEBLOS).

MISCELLANEOUS NOTICES.

AUTHORITIES AND PUBLICATIONS CONSULTED OR REFERRED TO.

[For the full titles of the principal publications named in the introduction, see pp. 156, 157, 158.]

Barney: "Chronological History of Voyages and Discoveries in the South Sea or Pacific Ocean."

Cabrillo: In the original Spanish in Herrera, &c., and in Evans' (and Henshaw's) translation.

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Fourth edition. By George Davidson, Assistant, United States Coast and Geodetic Survey, 1886.

Drake: "The English Hero, &c." Edition of 1739.

Drake: "The World Encompassed, &c." Hakluyt Society, 1854.

Ferrello: In the original Spanish, and in Evans' (and Henshaw's) translation.

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Hakluyt: "Voyages, &c.," Vol. III.

Henshaw: Introduction to Evans' translation of diaries of Cabrillo and Ferrello.

Herrera: "Historia General, &c.," for voyages of Cabrillo.

Hondius' Map of Drake's Voyage. (See under Drake.)

Hydrographic Bureau of the United States Navy: description of the "West Coast of Mexico, &c."

Kohl: History of Discovery and Exploration on the Coasts of the United States. In Report of Superintendent United States Coast and Geodetic Survey for 1884.

Mooz: Narrative of Ferrello's Voyages. See p. 240 of this paper.

Navarrete: Narrative of Ferrello's Voyages. See p. 240 of this paper.

Ramusio: Account (in Italian) of Voyages of Ulloa, &c., and English translation in Hakluyt.

Tebenköff: Hydrographic description (Atlas, 1818). See pp. 184, 200 of this paper.

Terquemada: Hydrographic description. See pp. 178, 182, 186 of this paper.

Ulloa: In Ramusio (see above), and translation into English in Hakluyt.

Venegas: "Noticia de la California, &c.," the original used for Vizcaino's Voyages.

Vizcaino: In Venegas (original), and Vizcaino's chart of the coast, as exhibited in Barney's volumes, Part II (see above).

DISCOVERERS AND EXPLORERS.

[Names to be found generally throughout this paper for the period in question.* For those casually alluded to, see pages as under.]

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